

Think GAIA
For Life and the Earth

SANYO

VRF DC-Inverter Air Conditioners

ECOi VRF DC Inverter Air Conditioners



MINI ECO *i*  MINI

2 WAY ECO *i*  5N series W-2WAY MULTI

3 WAY ECO *i*  W-3WAY MULTI

ELECTRIC VRF 
GAS DRIVEN VRF 
COMMERCIAL SPLIT SYSTEMS 
ROOM AIR CONDITIONERS 





Think GAIA

For Life and the Earth

"GAIA" is a term that encompasses the Blue Planet, "Earth," and the infinite varieties of "life" that live and breathe on it.

It describes the world as a single living organism, where all life and nature co-exist interdependently.

SANYO is committed to listening to GAIA's voice and engaging in activities that are beneficial to life and the Earth.

As a testament to this, SANYO pledges to respond by developing only products that are absolutely essential to life and the Earth.

We aim to bequeath a beautiful Earth to future generations.

This is SANYO's Brand Vision - Think GAIA.

As a leading provider of Environment- and Energy-related products,

SANYO seeks to harness its exclusive, unique technology and innovative creativity to deliver global solutions.

All for the Earth. All for life. All for GAIA.

The ever-evolving SANYO "ECO-i" series.

The ECO-i series is designed for energy savings, easy installation, and high efficiency. Always continuing to evolve, Sanyo uses advanced technologies to meet the requirements of diverse situations and contribute to the creation of comfortable living spaces.

MINI ECO-i

3-phase line-up

Type for light commercial use



- Top class COP=4.06 (In case of 4HP cooling)
- 9 indoor units can be connected to 1 outdoor unit. (In case of 6 HP)
- It is possible to perform cooling operation at outdoor temperatures down to -10°C.
- Wide model range: single-phase and three-phase

2 WAY ECO-i 5N series

Type with selection of cooling or heating operation



- Top class COP=3.90 (In case of 8 HP average)
- Wide range of product for narrower installation space New 14 & 16 HP
- It is possible to perform cooling operation at outdoor temperatures down to -10°C.

3 WAY ECO-i

Type with simultaneous heating and cooling operation

Heat Recovery Type



- Simultaneous cooling or heating operation for up to 40 indoor units
- Conforms to COP3.94* as the top class in the industry
- ** Average cooling and heating value for 8 HP outdoor unit
- Realization of the smallest installation space, top class in the industry
- Rotation operation function and back-up operation function provided

SANYO MULTI SYSTEM AIR CONDITIONERS

OUTDOOR UNITS LINE-UP

MINI ECO <i>i</i>		4 HP 							
Model name (SPW-)		Heat pump type 1-phase			Heat pump type 3-phase				
		CR365GXH56B			CR365GXH8B				
2 WAY ECO <i>i</i> 5N series									
HP	8	10	12	14	16	18 (8+10)	20 (10+10)	22 (10+12)	24 (10+14)
Model name (SPW-)	C0705DXHN8	C0905DXHN8	C1155DXHN8	C1305DXHN8	C1405DXHN8	C0705DXHN8 C0905DXHN8	C0905DXHN8 C0905DXHN8	C0905DXHN8 C1155DXHN8	C0905DXHN8 C1305DXHN8
3 WAY ECO <i>i</i>									
HP	8	10	12	14	16	18 (8+10)	20 (10+10)	22 (10+12)	24 (10+14)
Model name (SPW-)	CR704GDZH8B	CR904GDZH8B	CR1154GDZH8B	CR1304GDZH8B	CR1404GDZH8B	CR704GDZH8B CR904GDZH8B CR904GDZH8B	CR904GDZH8B CR904GDZH8B	CR904GDZH8B CR1154GDZH8B	CR904GDZH8B CR1304GDZH8B

INDOOR UNITS LINE-UP

Model size	7	9	12	16	18		
Capacity	kW	Cooling/Heating	2.2/2.5	2.8/3.2	3.6/4.2	4.5/5.0	5.6/6.3
	BTU/h	Cooling/Heating	7,500/8,500	9,600/11,000	12,000/14,000	15,000/17,000	19,000/21,000
XM type (600 x 600) Semi-Concealed Cassette 4-Way Air Discharge		SPW-XM075XH Panel PNR-XM185	SPW-XM095XH Panel PNR-XM185	SPW-XM125XH Panel PNR-XM185	SPW-XM165XH Panel PNR-XM185	SPW-XM185XH Panel PNR-XM185	
X type Semi-Concealed Cassette 4-Way Air Discharge		SPW-X075XH Panel PNR-XD484GHAB	SPW-X095XH Panel PNR-XD484GHAB	SPW-X125XH Panel PNR-XD484GHAB	SPW-X165XH Panel PNR-XD484GHAB	SPW-X185XH Panel PNR-XD484GHAB	
XMR type (600 x 600) Semi-Concealed Cassette 4-Way Air Discharge		SPW-XMR74EXH56B Panel PNR-XM184EHA	SPW-XMR94EXH56B Panel PNR-XM184EHA	SPW-XMR124EXH56B Panel PNR-XM184EHA	SPW-XMR164EXH56B Panel PNR-XM184EHA	SPW-XMR184EXH56B Panel PNR-XM184EHA	
SR type Semi-Concealed Cassette 2-Way Air Discharge		SPW-SR74GXH56B Panel PNR-S124GHB	SPW-SR94GXH56B Panel PNR-S124GHB	SPW-SR124GXH56B Panel PNR-S124GHB	SPW-SR164GXH56B Panel PNR-S124GHB	SPW-SR184GXH56B Panel PNR-S124GHB	
ADR type Semi-Concealed Cassette 1-Way Air Discharge		SPW-ADR74GXH56B Panel PNR-AD124GHB	SPW-ADR94GXH56B Panel PNR-AD124GHB	SPW-ADR124GXH56B Panel PNR-AD124GHB			
LDR type Semi-Concealed Slim Cassette			SPW-LDR94GXH56B Panel PNR-LD254GHAB	SPW-LDR124GXH56B Panel PNR-LD254GHAB	SPW-LDR164GXH56B Panel PNR-LD254GHAB	SPW-LDR184GXH56B Panel PNR-LD254GHAB	
U type Concealed Duct		SPW-U075XH	SPW-U095XH	SPW-U125XH	SPW-U165XH	SPW-U185XH	
UR type Concealed-Rectangle Duct		SPW-U075SXHT	SPW-U095SXHT	SPW-U125SXHT	SPW-U165SXHT	SPW-U185SXHT	
US type Concealed Duct		SPW-US075XH	SPW-US095XH	SPW-US125XH	SPW-US165XH	SPW-US185XH	
FUR type Floor/Ceiling Slim Concealed Duct		SPW-FUR74EXH56B	SPW-FUR94EXH56B	SPW-FUR124EXH56B	SPW-FUR164EXH56B	SPW-FUR184EXH56B	
UMR type Concealed Duct		SPW-UMR74EXH56B	SPW-UMR94EXH56B	SPW-UMR124EXH56B	SPW-UMR164EXH56B	SPW-UMR184EXH56B	
DR type Concealed Duct High-Static Pressure	 25-48 type 76,96 type						
T type Ceiling-Mounted Units				SPW-T125XH	SPW-T165XH	SPW-T185XH	
FTR type Floor/Ceiling Mounted Units		SPW-FTR74EXH56B	SPW-FTR94EXH56B	SPW-FTR124EXH56B	SPW-FTR164EXH56B	SPW-FTR184EXH56B	
K type Wall Mounted Units		SPW-K075XH	SPW-K095XH	SPW-K125XH			
KR type Wall-Mounted Units		SPW-KR74GXH56B	SPW-KR94GXH56B	SPW-KR124GXH56B	SPW-KR164GXH56B	SPW-KR184GXH56B	
FMR type Concealed Floor Standing Units		SPW-FMR74GXH56B	SPW-FMR94GXH56B	SPW-FMR124GXH56B	SPW-FMR164GXH56B	SPW-FMR184GXH56B	
FR type Floor Standing Units		SPW-FR74GXH56B	SPW-FR94GXH56B	SPW-FR124GXH56B	SPW-FR164GXH56B	SPW-FR184GXH56B	
GU type Total Heat Exchanger with DX coil			SPW-GU055XH		SPW-GU075XH	SPW-GU105XH	

Wired remote controller	Wireless remote controller				
For all indoor units	XM type	X type	XMR, SR, FTR type	ADR, T, LDR type	
RCS-TM80BG	RCS-BH80BG.WL	RCS-XM18BG.WL	RCS-SH80BG.WL	RCS-SS80BG.WL	RCS-TRP80BG.WL
					

CONTROL EQUIPMENT LINE-UP

"ECO-i" SERIES LINE-UP

5 HP				6 HP							
Heat pump type 1-phase		Heat pump type 3-phase		Heat pump type 1-phase		Heat pump type 3-phase					
CR485GXH56B		CR485GXH8B		CR605GXH56B		CR605GXH8B					
 				 							
26 (10+16)	28 (12+16)	30 (14+16)	32 (16+16)	34 (10+10+14)	36 (10+10+16)	38 (10+12+16)	40 (10+14+16)	42 (10+16+16)	44 (12+16+16)	46 (14+16+16)	48 (16+16+16)
C0905DXHN8 C1405DXHN8	C1155DXHN8 C1405DXHN8	C1305DXHN8 C1405DXHN8	C1405DXHN8 C1405DXHN8	C0905DXHN8 C0905DXHN8 C1305DXHN8	C0905DXHN8 C0905DXHN8 C1405DXHN8	C0905DXHN8 C1155DXHN8 C1305DXHN8	C0905DXHN8 C1405DXHN8	C0905DXHN8 C1155DXHN8 C1405DXHN8	C1305DXHN8 C1405DXHN8	C1405DXHN8 C1405DXHN8	C1405DXHN8 C1405DXHN8
26 (10+16)	28 (12+16)	30 (14+16)	32 (16+16)	34 (10+10+14)	36 (10+10+16)	38 (10+12+16)	40 (10+14+16)	42 (10+16+16)	44 (12+16+16)	46 (14+16+16)	48 (16+16+16)
CR904GDZH8B CR1404GDZH8B	CR1154GDZH8B CR1404GDZH8B	CR1304GDZH8B CR1404GDZH8B	CR1404GDZH8B CR1404GDZH8B	CR904GDZH8B CR904GDZH8B CR1304GDZH8B	CR904GDZH8B CR904GDZH8B CR1404GDZH8B	CR904GDZH8B CR1154GDZH8B CR1304GDZH8B	CR904GDZH8B CR1404GDZH8B	CR1154GDZH8B CR1404GDZH8B	CR1304GDZH8B CR1404GDZH8B	CR1404GDZH8B CR1404GDZH8B	CR1404GDZH8B CR1404GDZH8B
22	25	30	36	48	60	76	96				
6.4/7.0	7.3/8.0	9.0/10.0	10.6/11.4	14.0/16.0	16.0/18.0	22.4/25.0	28.0/31.5				
22,000/24,000	25,000/27,000	30,000/34,000	36,000/39,000	47,800/54,600	54,600/61,500	76,400/85,300	95,500/107,500				
	SPW-X255XH Panel PNR-XD484GHAB		SPW-X365XH Panel PNR-XD484GHAB	SPW-X485XH Panel PNR-XD484GHAB	SPW-X605XH Panel PNR-XD484GHAB						
	SPW-SR254GXH56B Panel PNR-S253GHANB										
	SPW-LDR254GXH56B Panel PNR-LD254GHAB										
	SPW-U255XH		SPW-U365XH	SPW-U485XH	SPW-U605XH						
	SPW-U255SXHT	SPW-U305SXHT	SPW-U365SXHT	SPW-U485SXHT	SPW-U605SXHT						
	SPW-FUR224EXH56B										
	SPW-UMR224EXH56B										
	SPW-DR254GXH56B		SPW-DR364GXH56B	SPW-DR484GXH56B		SPW-DR764GXH56B	SPW-DR964GXH56B				
	SPW-T255XH		SPW-T365XH	SPW-T485XH							
	SPW-FTR224EXH56B										
	SPW-KR254GXH56B										
	SPW-FMR254GXH56B										
	SPW-FR254GXH56B										

K type	Simplified remote controller	Schedule timer	System controller	Intelligent controller	Communication adapter	Serial/parallel I/O unit	LonWorks interface	Remote sensor
RCS-SH1BG	RCS-KR1AGB	SHA-TM64AGB	SHA-KC64AGB	SHA-KT256EG	SHA-KA128AGB	ACC-SP16TAG	SHA-LN16UGB	ART-K45AGB

MINI ECO-i

2 WAY ECO-i 5N series

3 WAY ECO-i

INDOOR UNITS

OPTIONAL PARTS

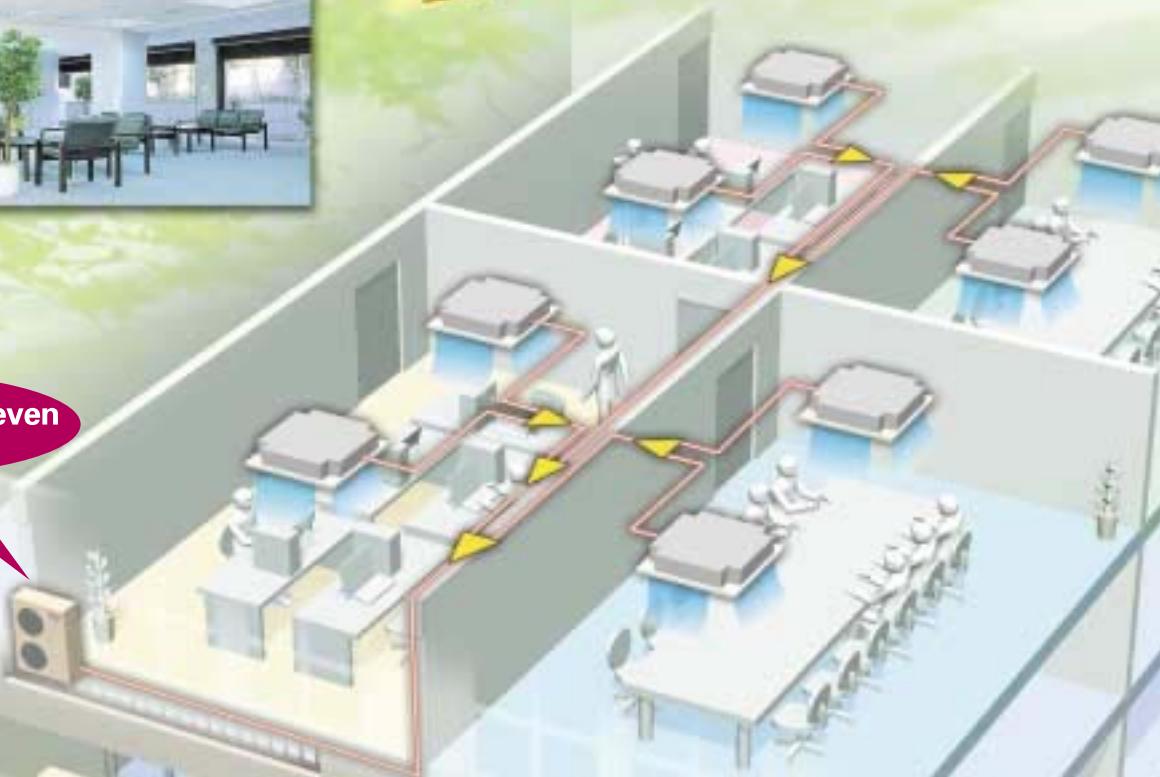
MINI ECO-i MULTI SYSTEM

**Newly developed "MINI
satisfy a wider variety of**

The MINI ECO-i has been developed as a higher-efficiency product that will appeal to a broader range of users. It's ideal for small offices and shops, and combined with the ECO Family Series, it can create a system that will satisfy any building owner.



**More
Efficiency**



**More
Selectable
for designers**



ECO-i", the perfect solution to customers' needs



"MINI ECO i" series (4, 5, 6 HP)

For light commercial use



3-phase line-up

- **Top class COP=4.06**
(In case of 4 HP cooling)
- **DC Inverter compressor of twin rotary type**
- **DC FAN motor**
- **Adoption of R410A**
- **Space saving**
- **Easier installation**
- **9 indoor units connectable** (In case of 6 HP)
- **It's possible to perform cooling operation at outdoor temperatures down to -10°C**
- **Piping length is extended to 150m**
- **Quiet operation mode**
- **Wide model range : Single phase and 3-phase power supply**



MINI ECO-i

2 WAY ECO-i 5N series

3 WAY ECO-i

INDOOR UNITS

OPTIONAL PARTS

MINI ECO-i

MULTI SYSTEM



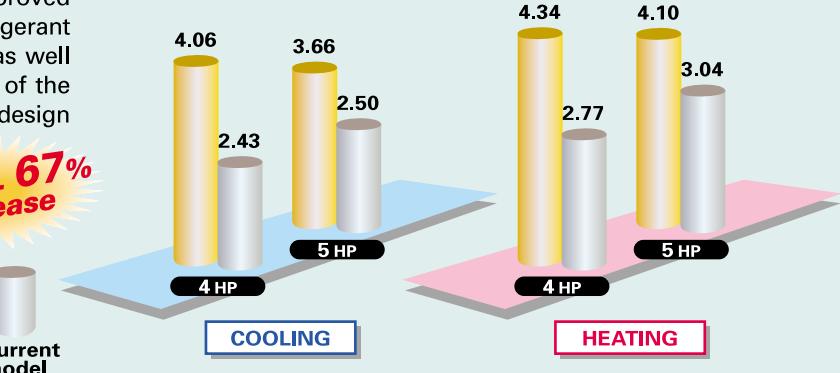
More excellent energy saving

The operation efficiency has been improved by using the highly efficient new refrigerant R410A and a DC inverter compressor as well as a new DC fan motor, improvement of the air speed distribution by changing the design of the heat exchanger.

Approx. 67% increase



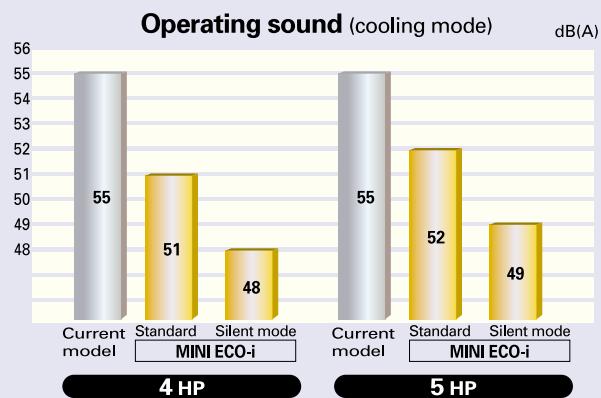
MINI ECO-i Current model



Low-operating sound design in the top class of the industry

The DC Inverter Air Conditioner uses a twin rotary compressor. Compared to the conventional single cylinder type, the twin rotary compressor dramatically reduces vibration and noise during operation, thus ensuring quiet operation.

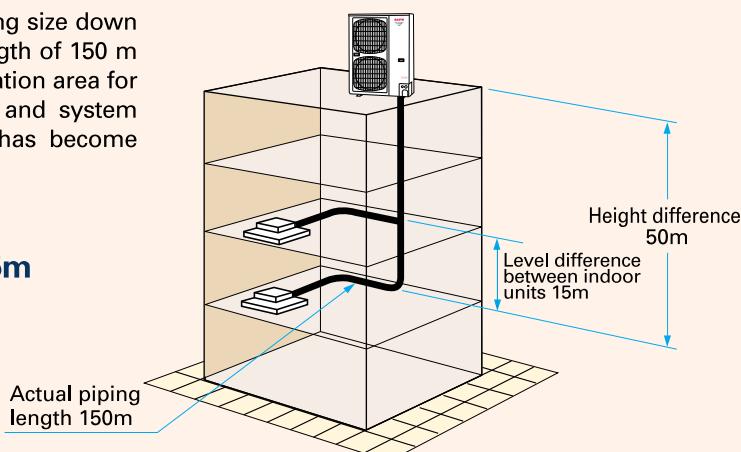
* The rated capacity cannot be performed in silent mode.



Correspondence to long piping

The reduction in the refrigerant volume by piping size down has extended the piping length to an actual length of 150 m and a total length of 200 m. The possible installation area for indoor and outdoor units has been widened and system deployment with a high degree of freedom has become possible.

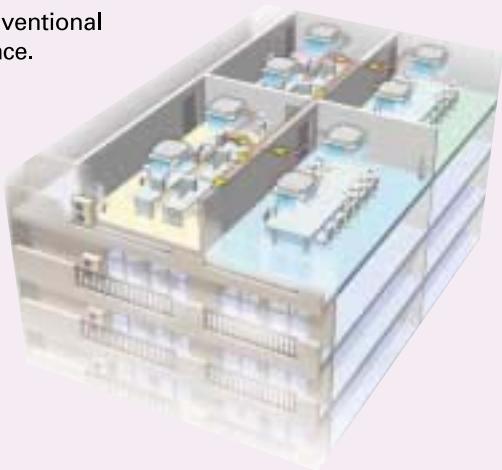
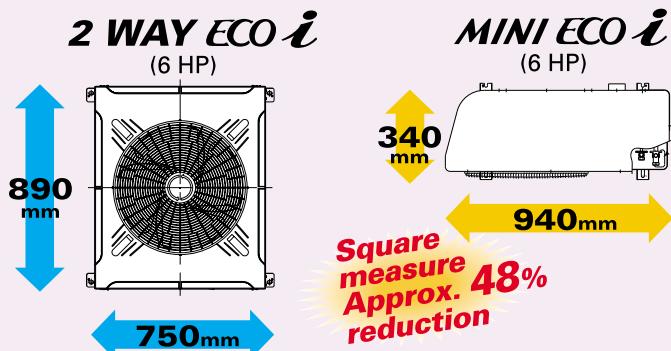
Actual piping length 70m \Rightarrow 150m
Equivalent piping length 120m \Rightarrow 175m
Total piping length 150m \Rightarrow 200m





Space saving

The unit offers significant space-saving advantages over the conventional model (6HP), so it can be installed on a veranda or other narrow space.



Extended operating range

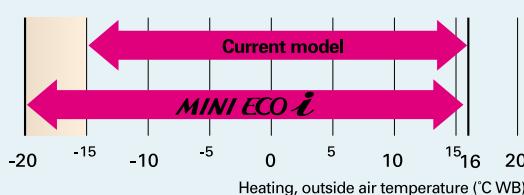
Cooling operation range:

- The cooling operation range has been extended from -5°C to -10°C by changing the outdoor fan to an inverter type.



Heating operation range:

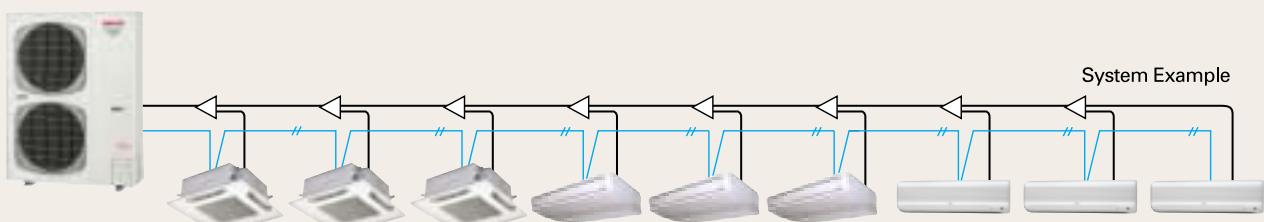
- Stable heating operation even with an outside air temperature of -20°C
- The heating operation range has been extended from -15°C to -20°C by use of a compressor with a high-pressure vessel.



- Wide temperature setting range

Wired remote control heating temperature setting range
 Conventional MULTI: 16 to 26°C
ECO-i Series: 16 to 30°C

Increased max. number of connectable indoor units



System (HP)	4	5	6
Connectable indoor units	6	8	9

MINI ECO i

MULTI SYSTEM

■ Outdoor unit specifications

HP		4		5		6					
Model name (SPW-)		Heat pump type		Heat pump type		Heat pump type					
		CR365GXH56B	CR365GXH8B	CR485GXH56B	CR485GXH8B	CR605GXH56B	CR605GXH8B				
Power supply		220/230/240V-1 phase/50, 60Hz		380/400/415V-3 phase/50, 60Hz		220/230/240V-1 phase/50, 60Hz					
Capacity	Cooling (kW)	11.2		14.0		15.5					
	(BTU/h)	38,200		47,800		52,900					
	Heating (kW)	12.5		16.0		17.6					
	(BTU/h)	42,700		54,600		60,000					
COP	Cooling (W/W)	4.06		3.66		3.39					
	Heating (W/W)	4.34		4.10		3.84					
Dimension (HxWxD) (mm)		1,230x940x340									
Net weight (kg)		104									
Electrical rating	Cooling	Running amperes (A)	14.8/14.1/13.5	4.56/4.34/4.18	20.5/19.6/18.8	6.20/6.02/5.80	24.4/23.4/22.4				
		Power input (kW)	2.76		3.83		7.40/7.18/6.92				
	Heating	Running amperes (A)	15.4/14.7/14.1	4.76/4.52/4.36	20.8/19.9/19.1	6.31/6.13/5.90	24.5/23.4/22.5				
		Power input (kW)	2.88		3.90		7.41/7.19/6.93				
Color (munsell color chart)		Silky shade (1Y8.5/0.5)									
Air circulation (m ³ /min)		100		100		100					
Refrigerant amount at shipment (kg)		3.5		3.5		3.5					
Piping connections	Gas pipe (Flare) (mm)	ø15.88				ø19.05 *1					
	Liquid pipe (Flare) (mm)	ø9.52									
Ambient temperature operating range		Cooling: -10°C DB ~ +43°C DB, heating: -20°C WB ~ +15°C WB									
Maximum number of connectable indoor units		6		8		9					
Pressure sound	Normal mode dB(A)	51		51		52					
	Silent mode dB(A)	48		48		49					
Power sound	Normal mode dB(A)	67		67		68					

* The values for performance and electric characteristics apply under the following test conditions.

Data subject to change without notice.

At the time of cooling: Indoor suction air temperature 27°C DB, 19°C WB, outdoor suction air temperature 35°C DB

At the time of heating: Indoor suction air temperature 20°C DB, outdoor suction air temperature 7°C DB, 6°C WB

* The operating sound has been measured in an anechoic chamber, and it is the value one meter in front of the outdoor unit at a height of 1.5 m. With actual installation, the indication value normally differs widely according to the surrounding noise and reverberations.

*1; Tube discharge assy supplied with outdoor unit

■ Optional parts

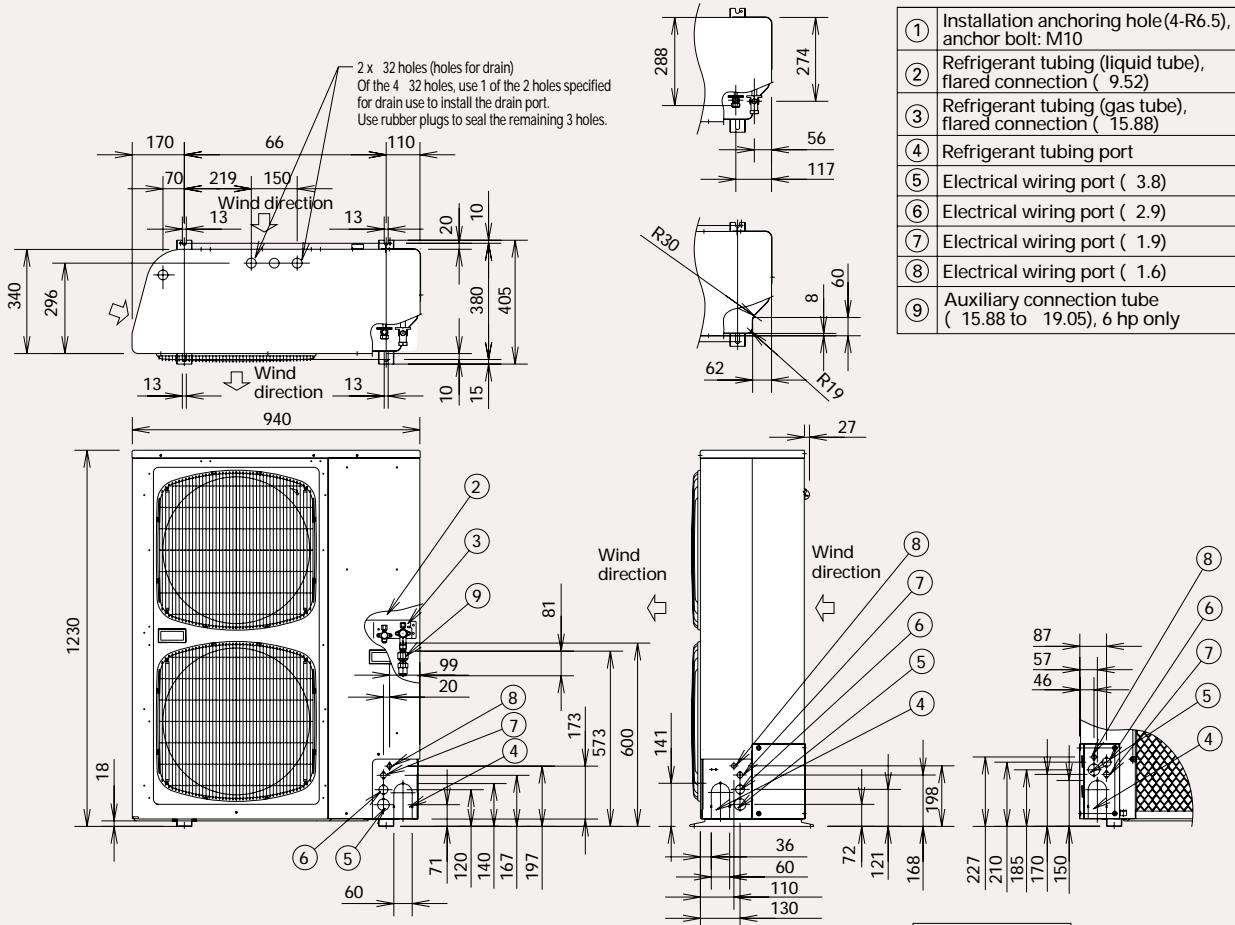
Model name	Cooling capacity after distribution	Remarks
APR-P160BG	22.4 kW or less	For indoor unit

Model No.	Valve connecting tube size (mm)		Indoor unit where used
	Gas tube	Liquid tube	Total capacity of indoor units after the valve
BV-RXP160AGB	15.88	9.52	16.0 kW or less
BV-RXP56AGB	12.7	6.35	5.6 kW or less



Dimensional data

Dimension : mm



■ Distribution joint kit

● Connection dimensions of the parts

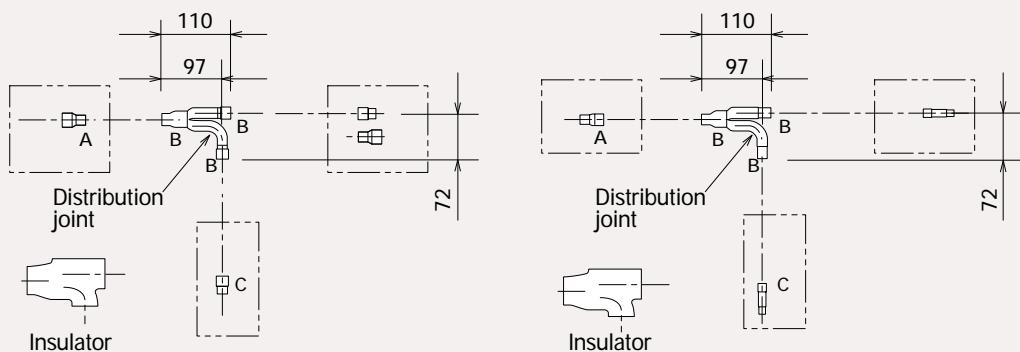
** Example: In the drawing, F indicates an inner diameter dimension,
① indicates an outer diameter dimension.

(mm)

Position	Part A	Part B	Part C	Part D	Part E
Dimension	19.05	15.88	12.7	9.52	6.35

● APR-P160BG (for indoor units)

(Capacity after distribution joint is 22.4 kW or less.)

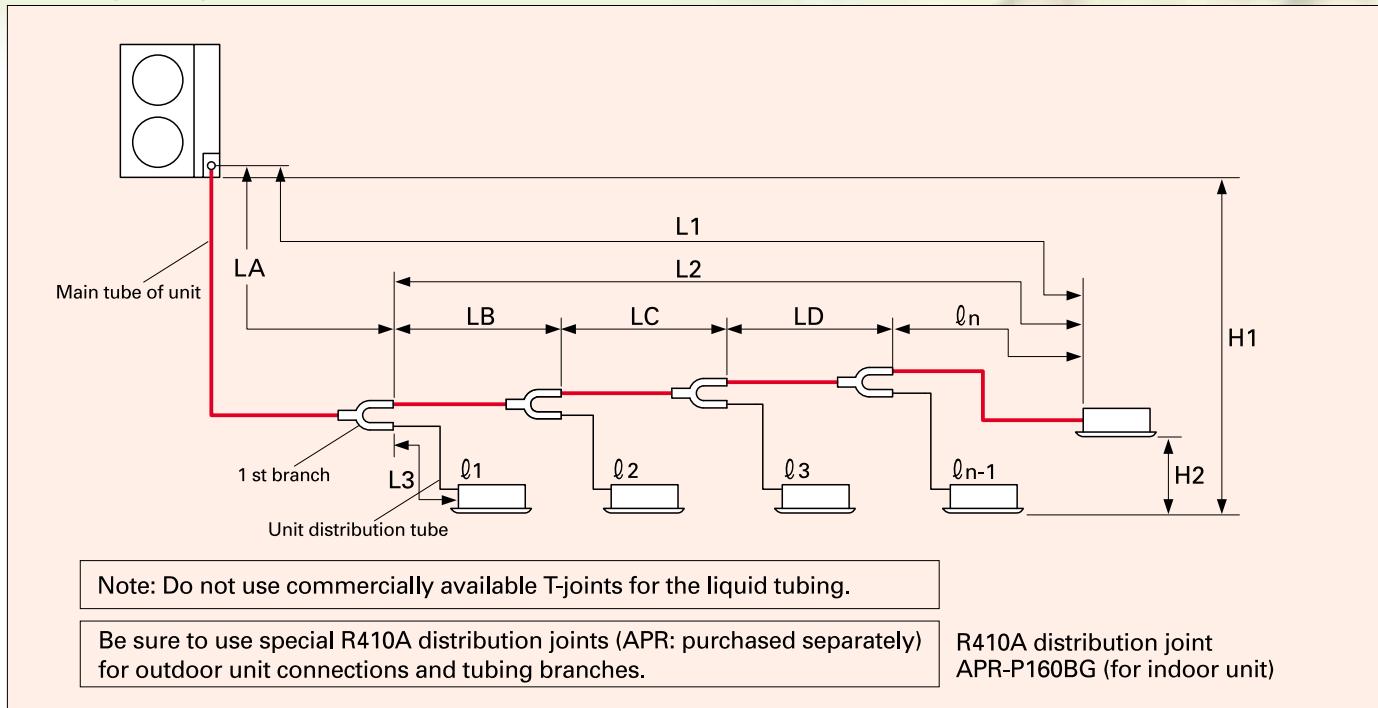


MINI ECO i

MULTI SYSTEM



■ Piping design



■ Ranges that apply to refrigerant tubing lengths and to differences in installation heights

Items	Marks	Contents	Length (m)
Allowable tubing length	L1	Max. piping length	≤150
		Actual piping length	≤175
	ΔL (L2 – L3)	Difference between the max. length and the min. Length from the No.1 distribution joint	≤40
	l1, l2 ~ ln	Max. length of each distribution tube	≤30
	l1+ l2+ ~ ln-1+ L1	Total max. tubing length including length of each distribution tube (only narrow tubing)	≤200
Allowable elevation difference	H1	When outdoor unit is installed higher than indoor unit	≤50
		When outdoor unit is installed lower than indoor unit	≤40
	H2	Max. difference between indoor units	≤15

L = Length, H = Height

■ Main tubing size (LA)

kW	11.2	14.0	15.5
System horsepower	4	5	6
Gas tubing (mm)	ø15.88		ø19.05
Liquid tubing (mm)	ø9.52		

■ System limitations

Outdoor units (Type)	365	485	605
Number of max. connectable indoor units	6	8	9
Max. allowable indoor/ outdoor capacity ratio	50 -130%		

■ Main tubing size after distribution (LB, LC...)

Total capacity after distribution	Below kW	7.1 (2.5 hp)	11.2 (4 hp)	14.0 (5 hp)	15.5 (6 hp)
	Over kW	—	—	7.1 (2.5 hp)	—
Tubing size	Gas tubing (mm)	ø12.7		ø15.88	
	Liquid tubing (mm)	ø9.52		ø9.52	

Unit: mm
hp = horsepower

Note: In case the total capacity of connected indoor units exceeds the total capacity of the outdoor units, select the main tubing size for the total capacity of the outdoor units.

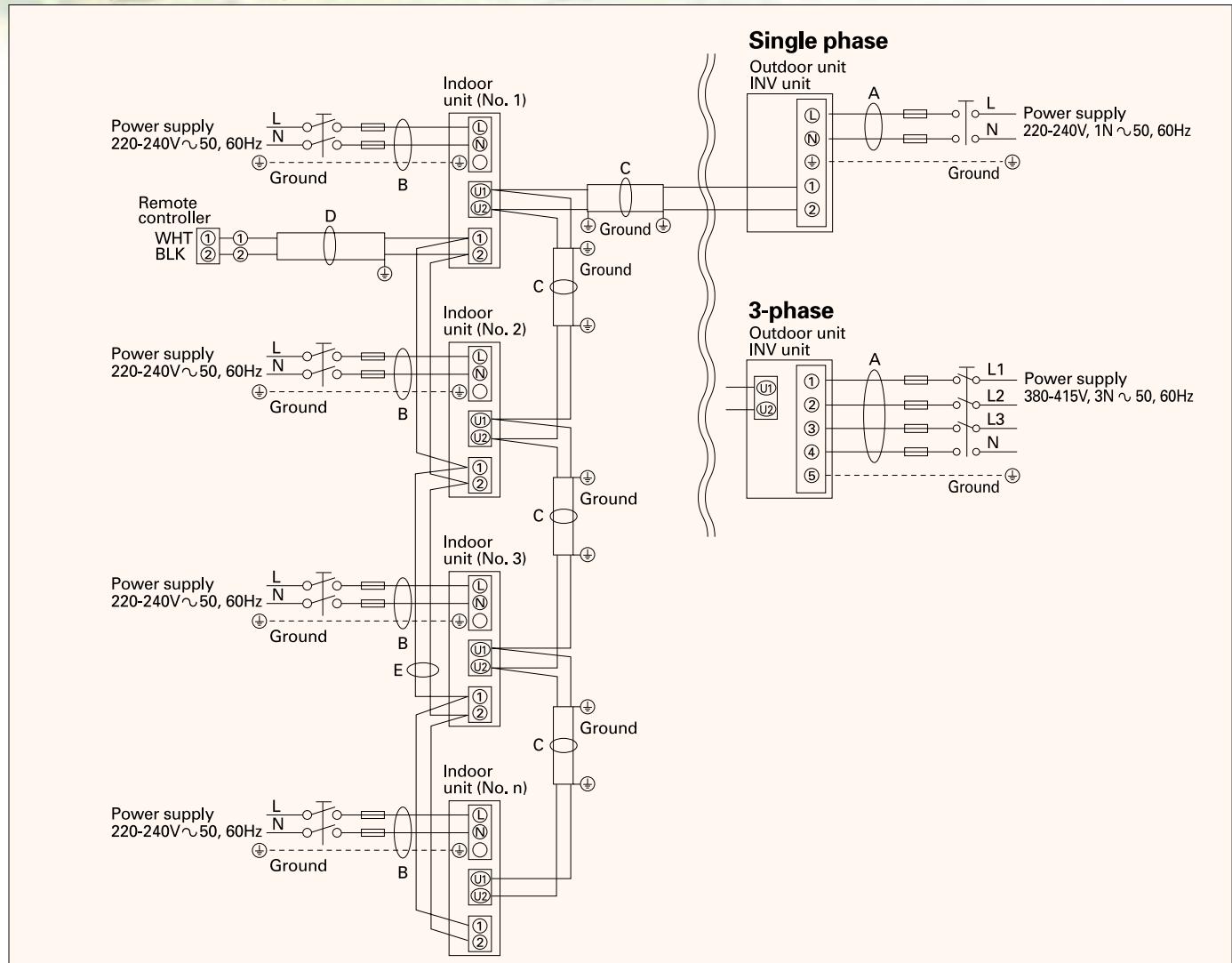
■ Indoor unit tubing connection (l1, l2 ... ln-1)

Indoor unit type	7	9	12	16	18	25	36	48	60
Gas tubing (mm)	ø12.7					ø15.88			
Liquid tubing (mm)	ø6.35					ø9.52			

Unit: mm



■Wiring System Diagram



2WAY ECO *i*

5N series

MULTI SYSTEM

**Large-capacity multi systems
from Sanyo!**



with use of R410A with advanced technology



"2 WAY ECO-i"

5N series (8 to 48 HP)

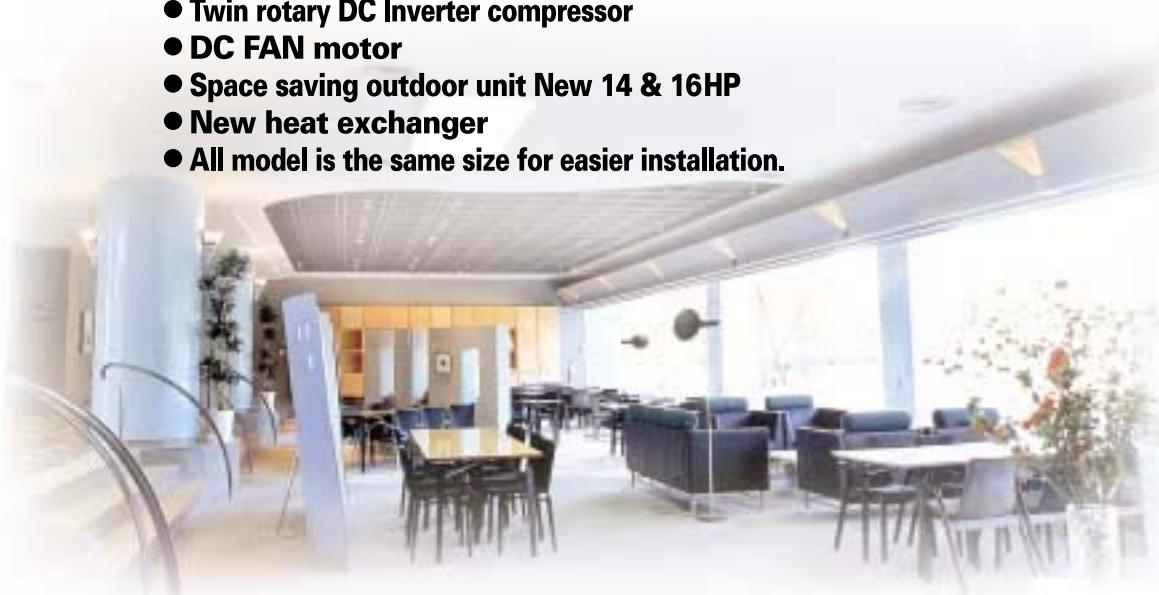


High-efficiency large-capacity multi system

A high-performance multi system with excellent energy savings and work execution characteristics for buildings.

High performance and various options contribute to the creation of comfortable space meeting various needs.

- **Top class COP=3.90** (In case of 8 HP average)
- Twin rotary DC Inverter compressor
- DC FAN motor
- Space saving outdoor unit New 14 & 16HP
- New heat exchanger
- All model is the same size for easier installation.



MINI ECO-i

2 WAY ECO-i 5N series

3 WAY ECO-i

INDOOR UNITS

OPTIONAL PARTS

2 WAY ECO-i

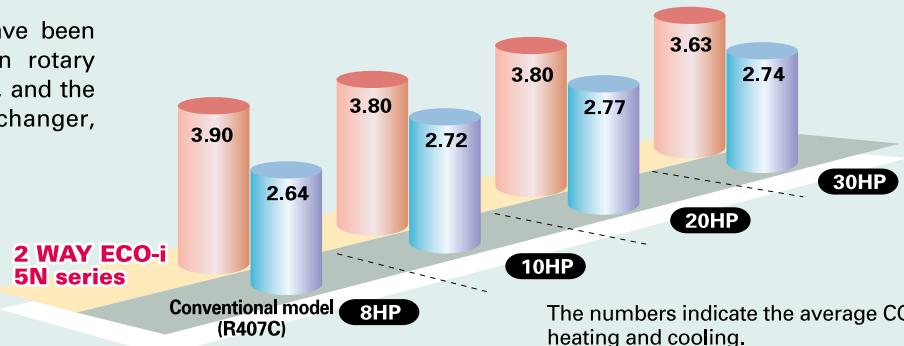
5N series

MULTI SYSTEM

High efficiency and large

More excellent energy saving

Wide efficiency increases have been realized by use of DC twin rotary compressors, new fan motor, and the improvement of heat exchanger, constant speed compressor.



The numbers indicate the average COP for heating and cooling.

Line-up expansion

The 2 WAY ECO-i 5N series has all five DC inverter outdoor units from 8 HP to 16 HP as the basic models, and by combination of up to three units, an air-conditioning capacity 8 HP to 48 HP can be set according to the user needs.

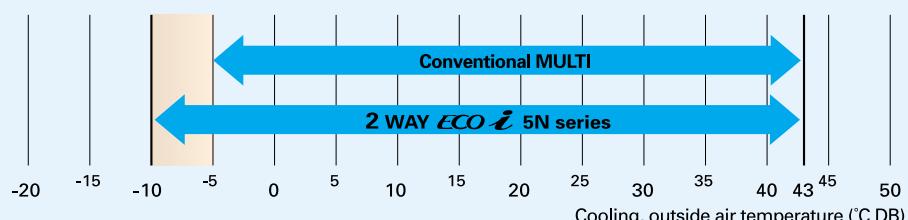
HP	8	10	12	14	16	18	20	22	24	26	28
2 WAY ECO-i 5N series	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
Inverter unit	8	10	12	14	16	10	10	12	14	16	16

HP	30	32	34	36	38	40	42	44	46	48
2 WAY ECO-i 5N series	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
Inverter unit	16	16	14	16	16	16	16	16	16	16

Extended operating range

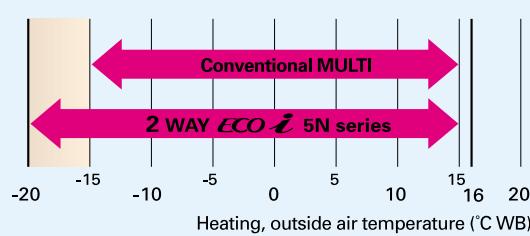
Cooling operation range:

- The cooling operation range has been extended from -5°C to -10°C by changing the outdoor fan to an inverter type.



Heating operation range:

- Stable heating operation even with an outside air temperature of -20°C
- The heating operation range has been extended from -15°C to -20°C by use of a compressor with a high-pressure vessel.



capacity multi adopts R410A refrigerant

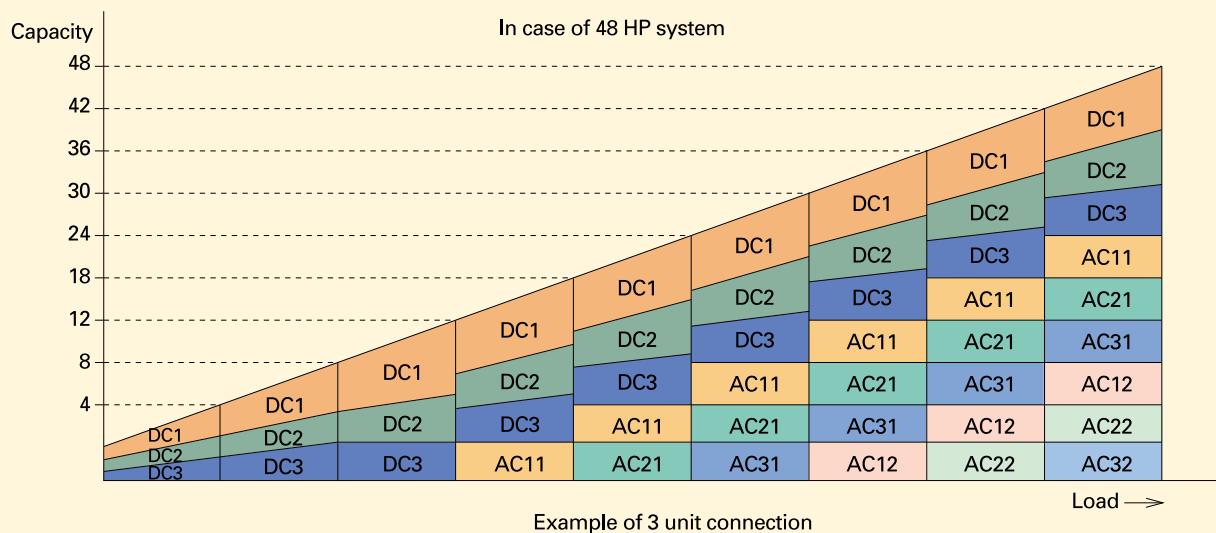
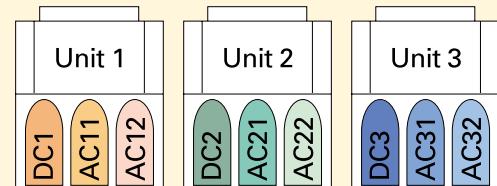


Realization of smooth capacity control from 0.8HP to 48HP

Capacity control is possible smoothly with a DC inverter compressor. The lower graph shows the image of the operating combination of compressors in case of 48 HP system. In actual operation, the combination will be changed by operating condition, operating time amount, priority of compressor and so on.

Comp. HP	Unit 1 (main)	Unit 2 (sub 1)	Unit 3 (sub 2)
DC comp.	4.0	4.0	4.0
AC1 comp.	6.0	6.0	6.0
AC2 comp.	6.0	6.0	6.0

*48HP = SPW-C1405DXH8 x 3



● An emergency backup function is provided

● Long piping design

Actual piping length 100m → 150m
Total piping length 150m → 300m

● Increased max. number of connectable indoor units

System (HP)	8	10	12	14	16	18	20	22	24~48
Connectable indoor units	13	16	19	23	26	29	33	36	40

MINI ECO-i

2 WAY ECO-i 5N series

3 WAY ECO-i

INDOOR UNITS

OPTIONAL PARTS

2 WAY ECO-i

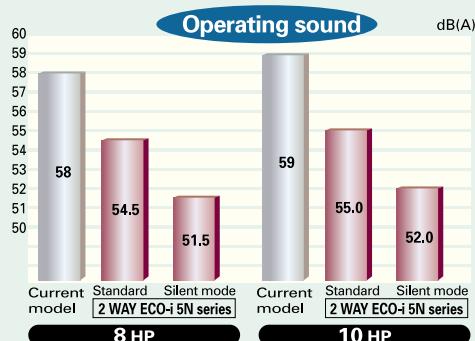
5N series

MULTI SYSTEM

High efficiency and large

Smallest installation space in the industry! Further reduction of the operating sound

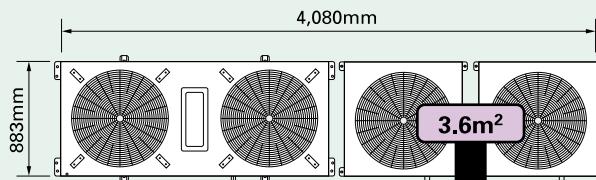
The five DC inverter types from 8 HP to 16 HP have been unified to the same external dimensions by using a two-room construction with the compressor and other structural parts at the lower room of the outdoor unit and the heat exchanger at the upper room of the outdoor unit. In this way, the smallest installation space in the industry and low operating sound have been realized.



Compared with a conventional unit

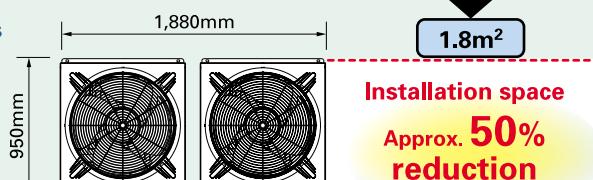
With a 32 HP-equivalent setup of two 16 HP-equivalent units

Conventional model



**Weight:
990 kg**

2 WAY ECO-i 5N series



**Weight:
690 kg**

**Approx. 30%
reduction**

Compact design effectively uses empty space

Parking lot expansion, warehouse installation, etc.

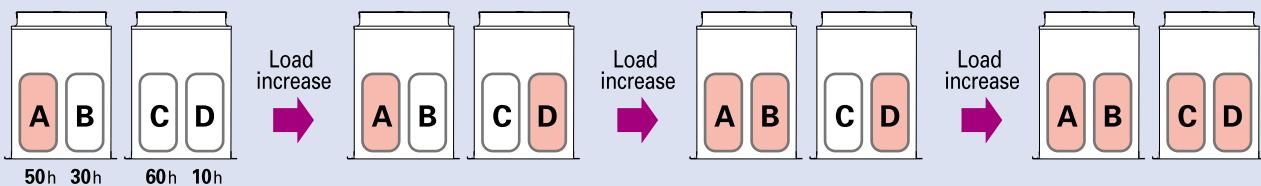
capacity multi adopts R410A refrigerant



Extended compressor life by uniform compressor operation times

The total operation time of the compressors is monitored by a microcomputer, so that there is no unbalance for the operation times of all compressors in the same refrigerant system, and compressors with a shorter operation time are operated with preference.

System example A, C: DC inverter compressor B, D: Constant speed compressor



Reduction of the piping cost and construction labor by smaller piping size

By adoption of R410A with low pressure loss, it was possible to reduce the piping sizes for gas pipes and liquid pipes. This makes it possible to aim for reduced piping space, improved workability at the site, and reduction of the piping material costs.

Example: In case of 10 HP

28.58mm 12.7mm 22.22mm 9.52mm

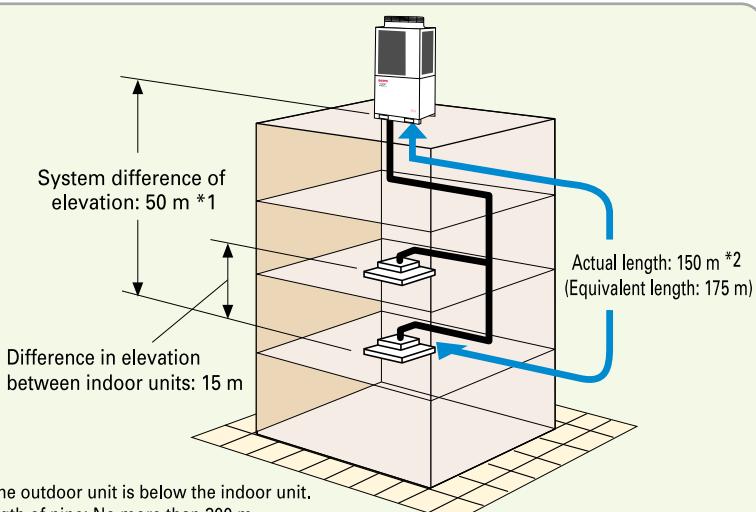


HP	Conventional model		2 WAY ECO-i 5N series	
	Gas pipe	Liquid pipe	Gas pipe	Liquid pipe
8	25.4	12.7	19.05	9.52
10	28.58	12.7	22.22	9.52

Correspondence to long piping in the top class of the industry

The reduction in the refrigerant volume by piping size down has extended the piping length to an actual length of 150 m and a total length of 300 m, the top class in the industry. The possible installation area for indoor and outdoor units has been widened and system deployment with a high degree of freedom has become possible.

Actual piping length: 150m
Equivalent piping length: 175m
Total piping length: 300m



*1: 40 m if the outdoor unit is below the indoor unit.
 *2: Total length of pipe: No more than 300 m

MINI ECO-i

2 WAY ECO-i 5N series

3 WAY ECO-i

INDOOR UNITS

OPTIONAL PARTS

2WAY ECO i

5N series

MULTI SYSTEM

Outdoor unit specifications,

■ Outdoor unit specifications

Appearance						
HP		8	10	12	14	16
Model name (SPW-)		C0705DXHN8	C0905DXHN8	C1155DXHN8	C1305DXHN8	C1405DXHN8
Power supply		380/400/415V-3 phase/50Hz				
Capacity	Cooling (kW)	22.4	28.0	33.5	40.0	45.0
	(BTU/h)	76,400	95,500	114,300	136,500	153,600
	Heating (kW)	25.0	31.5	37.5	45.0	50.0
	(BTU/h)	85,300	107,500	128,000	153,600	170,600
COP	Cooling (W/W)	3.74	3.54	3.50	3.45	3.38
	Heating (W/W)	4.05	4.06	3.91	3.91	3.79
Dimensions(HxWxD) (mm)		1,887 x 890 x 890 (+60)				
Net weight (kg)		245	295	295	345	345
Electrical rating	Cooling Running amperes (A)	10.1/9.6/9.3	12.9/12.3/11.8	15.6/14.9/14.3	19.6/18.6/17.9	22.5/21.3/20.6
	Power input (kW)	5.99	7.90	9.58	11.6	13.3
	Heating Running amperes (A)	10.4/9.9/9.5	12.7/12.0/11.6	15.7/14.9/14.3	19.4/18.5/17.8	22.3/21.2/20.4
	Power input (kW)	6.17	7.75	9.60	11.5	13.2
Starting amperes (A)		1/1/1	59/62/64	66/69/72	68/71/73	78/80/82
Air circulation (m³/min)		150	160	180	200	220
Refrigerant amount at shipment (kg)		11.8				
Piping connection	Gas pipe (mm)	ø19.05	ø22.22	ø25.4	ø25.4	ø28.58
	Liquid pipe (mm)	ø9.52	ø9.52	ø12.7	ø12.7	ø12.7
	Balance pipe (mm)	ø6.35	ø6.35	ø6.35	ø6.35	ø6.35
Ambient temperature operating range		Cooling/dry: -10°C ~ +43°C (DB), Heating: -20°C ~ +15°C (WB)				
Pressure sound	Normal mode dB(A)	54.5	55.0	56.0	61.0	62.0
	Silent mode dB(A)	51.5	52.0	53.0	58.0	59.0
Power sound	Normal mode dB(A)	65.5	66.5	67.5	71.5	72.0

* The values for performance and electric characteristics apply under the following test conditions.

Data subject to change without notice.

At the time of cooling: Indoor suction air temperature 27°C DB, 19°C WB, outdoor suction air temperature 35°C DB

At the time of heating: Indoor suction air temperature 20°C DB, outdoor suction air temperature 7°C DB, 6°C WB

* The operating sound has been measured in an anechoic chamber, and it is the value one meter in front of the outdoor unit at a height of 1.5 m. With actual installation, the indication value normally differs widely according to the surrounding noise and reverberations.

optional parts, external dimension drawings



MINI ECO-i

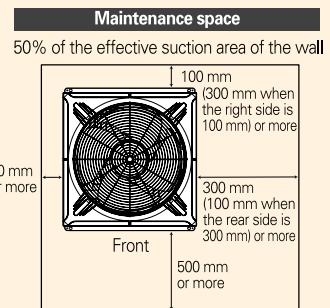
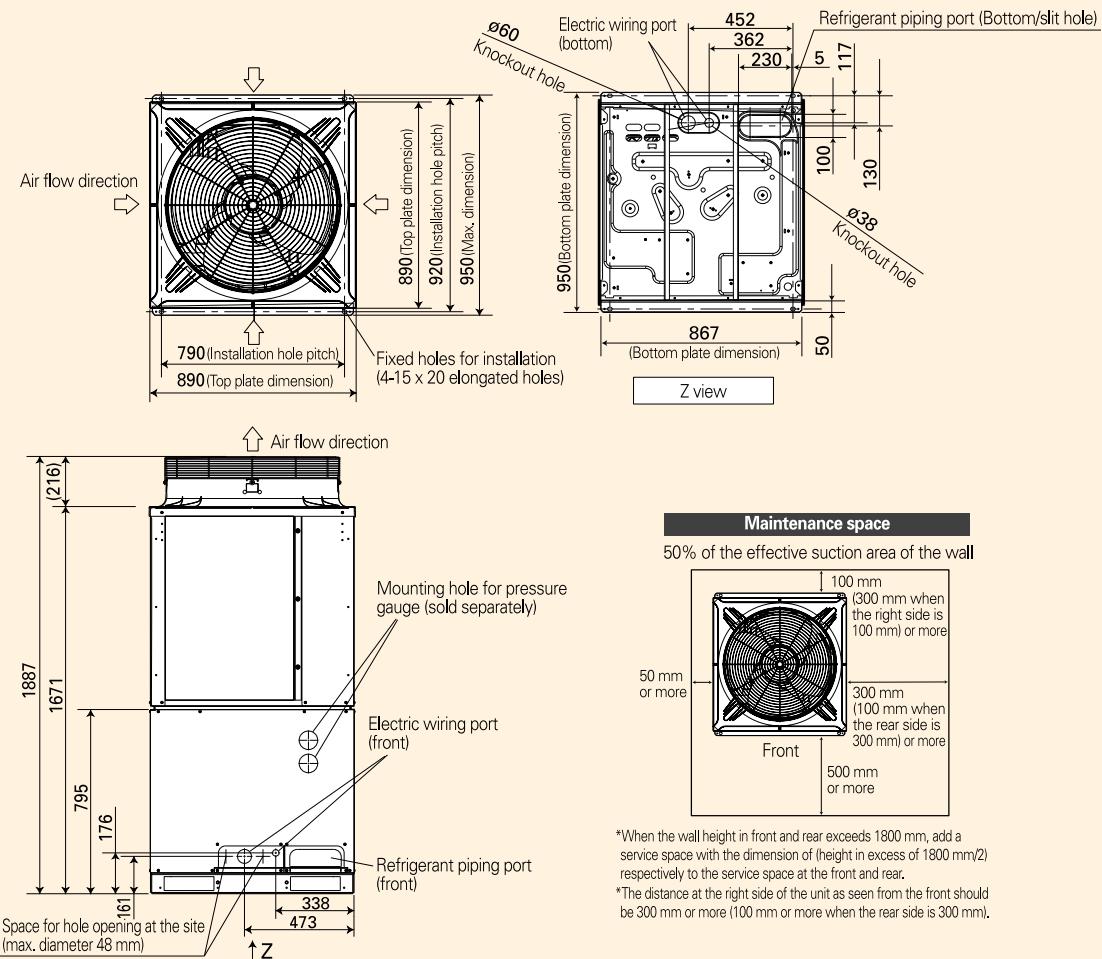
2 WAY ECO-i 5N series

3 WAY ECO-i

INDOOR UNITS

OPTIONAL PARTS

External dimension drawings



*When the wall height in front and rear exceeds 1800 mm, add a service space with the dimension of (height in excess of 1800 mm/2) respectively to the service space at the front and rear.

*The distance at the right side of the unit as seen from the front should be 300 mm or more (100 mm or more when the rear side is 300 mm).

Optional parts

Distribution joint kit

<For indoor units >

- **APR-P160BG** (Capacity after distribution: 22.4 kW or lower)
- **APR-P680BG** (Capacity after distribution: Over 22.4 kW to 68.0 kW)
- **APR-P1350BG** (Capacity after distribution: Over 68.0 kW to 135.0 kW)

<For outdoor units >

- **APR-CHP680BG** (Capacity after distribution: 68.0 kW or lower)
- **APR-CHP1350BG** (Capacity after distribution: Over 68.0 kW to 135.0 kW)

2 WAY ECO i

5N series

MULTI SYSTEM

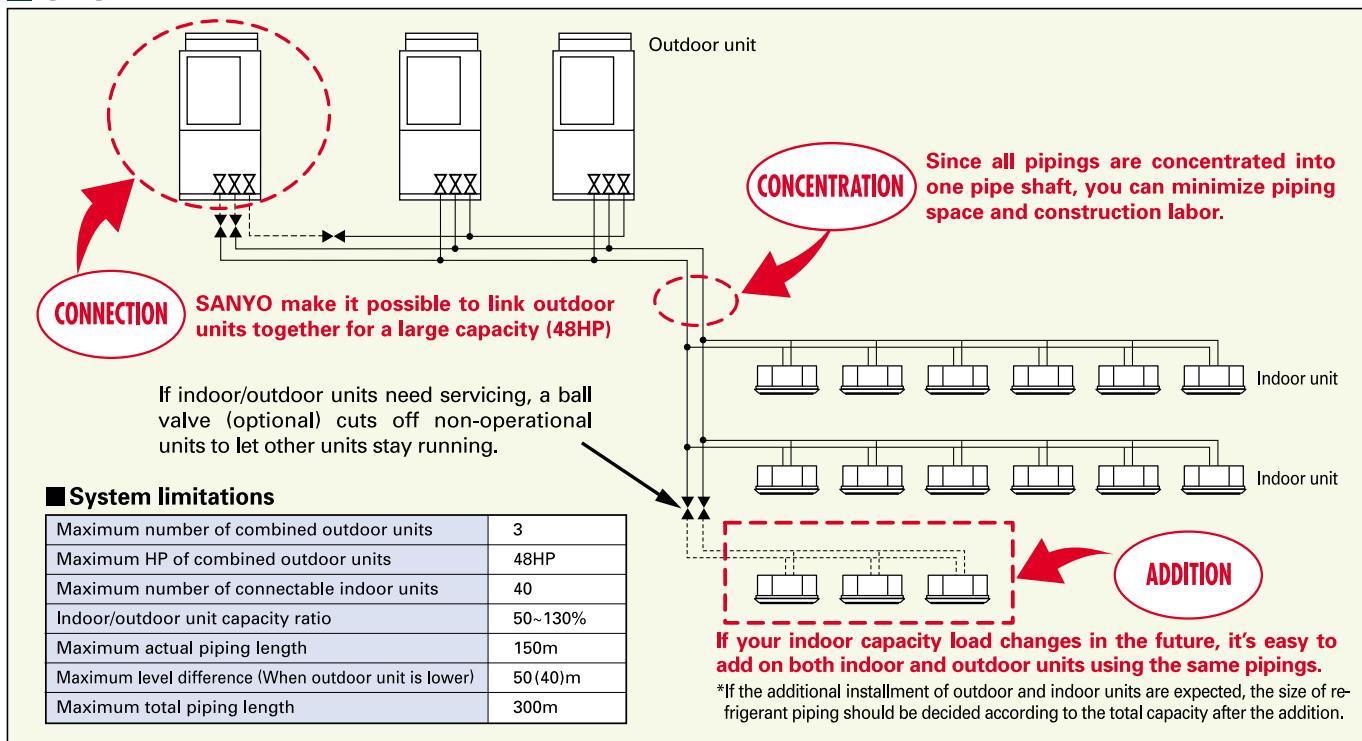
UNIT COMBINATIONS

OUTDOOR UNITS SPECIFICATIONS

Appearance											
HP		8	10	12	14	16	18	20	22	24	
Model name (SPW-)		C0705DXHN8	C0905DXHN8	C1155DXHN8	C1305DXHN8	C1405DXHN8	C0905DXHN8 C0705DXHN8	C0905DXHN8 C0905DXHN8	C1155DXHN8 C0905DXHN8	C1305DXHN8 C0905DXHN8	
Power supply		380/400/415V-3phase/50.60Hz									
Capacity	Cooling		(kW)	22.4	28.0	33.5	40.0	45.0	50.4	56.0	61.5
	(BTU/h)			76,400	95,500	114,300	136,500	153,600	172,000	191,100	209,900
Capacity	Heating		(kW)	25.0	31.5	37.5	45.0	50.0	56.5	63.0	69.0
	(BTU/h)			85,300	107,500	128,000	153,600	170,600	192,800	215,000	235,500
COP	Cooling		(W/W)	3.74	3.54	3.50	3.45	3.38	3.63	3.54	3.51
	Heating		(W/W)	4.05	4.06	3.91	3.91	3.79	4.06	4.06	3.97
Dimensions (HxWxD)		(mm)					1,887 x 890 x 890 (+60)				
Net weight		(kg)					1,887 x 1,880 x 890 (+60)				
Electrical ratings	Cooling		Running amperes (A)	10.1/9.6/9.3	12.9/12.3/11.8	15.6/14.9/14.3	19.6/18.6/17.9	22.5/21.3/20.6	23.0/21.9/21.1	25.8/24.6/23.6	28.5/27.2/26.1
	Power input (kW)			5.99	7.90	9.58	11.6	13.3	13.9	15.8	17.5
	Heating		(A)	10.4/9.9/9.5	12.7/12.0/11.6	15.7/14.9/14.3	19.4/18.5/17.8	22.3/21.2/20.4	23.1/21.9/21.1	25.4/24.0/23.2	28.4/26.9/25.9
	Power input (kW)			6.17	7.75	9.60	11.5	13.2	13.9	15.5	17.4
Air circulation		(m³/min)					150 160 180 200 220				
Refrigerant amount at shipment		(kg)					11.8				
Piping connections		(mm)					23.6				
Ambient temperature operating range		Cooling/Dry: -10°C~+43°C (DB), Heating: -20°C~+15°C (WB)									
Operating sound	Normal mode		dB(A)	54.5	55.0	56.0	61.0	62.0	58	58	58.5
	Silent mode		dB(A)	51.5	52.0	53.0	58.0	59.0	55	55	55.5

Note: Rated conditions Cooling: indoor air temperature 27°C CB/19°C WB, outdoor air temperature 35°C DB
Heating: indoor air temperature 20°C DB, outdoor air temperature 7°C DB/6°C WB

SYSTEM EXAMPLE



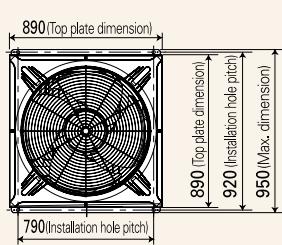


26	28	30	32	34	36	38	40	42	44	46	48
C1405DXHN8 C0905DXHN8	C1405DXHN8 C1155DXHN8	C1405DXHN8 C1305DXHN8	C1405DXHN8 C1405DXHN8	C1305DXHN8 C0905DXHN8 C0905DXHN8	C1405DXHN8 C0905DXHN8 C1155DXHN8 C0905DXHN8	C1405DXHN8 C1305DXHN8 C0905DXHN8	C1405DXHN8 C1405DXHN8 C0905DXHN8	C1405DXHN8 C1405DXHN8 C0905DXHN8	C1405DXHN8 C1405DXHN8 C1155DXHN8	C1405DXHN8 C1405DXHN8 C1305DXHN8	C1405DXHN8 C1405DXHN8 C1405DXHN8
380/400/415V-3phase/50Hz											
73.0	78.5	85.0	90.0	96.0	101.0	107.0	113.0	118.0	124.0	130.0	135.0
249,100	267,900	290,000	307,100	327,600	344,600	365,100	385,600	402,700	423,100	443,600	460,700
81.5	87.5	95.0	100.0	108.0	113.0	119.0	127.0	132.0	138.0	145.0	150.0
278,100	298,600	324,200	341,200	368,500	385,600	406,100	433,400	450,400	470,900	494,800	511,800
3.44	3.43	3.41	3.38	3.50	3.47	3.47	3.45	3.42	3.43	3.40	3.38
3.88	3.84	3.85	3.79	4.00	3.94	3.89	3.91	3.86	3.83	3.83	3.79
1,887 x 1,880 x 890 (+60)				1,887 x 2,870 x 890 (+60)							
640	640	690	690	935	935	935	985	985	985	1,035	1,035
35.4/33.6/32.4	38.1/36.2/34.9	42.1/39.9/38.5	45.0/42.6/41.2	45.4/43.2/41.5	48.3/45.9/44.2	51.0/48.5/46.7	55.0/52.2/50.3	57.9/54.9/53.0	60.6/57.5/55.5	64.6/61.2/59.1	67.5/63.9/61.8
21.2	22.9	24.9	26.6	27.4	29.1	30.8	32.8	34.5	36.2	38.2	39.9
35.0/33.2/32.0	38.0/36.1/34.7	41.7/39.7/38.2	44.6/42.4/40.8	44.8/42.5/41.0	47.7/45.2/43.6	50.7/48.1/46.3	54.4/51.7/49.8	57.3/54.4/52.4	60.3/57.3/55.1	64.0/60.9/58.6	66.9/63.6/61.2
21.0	22.8	24.7	26.4	27.0	28.7	30.6	32.5	34.2	36.0	37.9	39.6
160+220	180+220	200+220	220+220	160+160+200	160+160+220	160+180+220	160+200+220	160+220+220	180+220+220	200+220+220	220+220+220
23.6				35.4							
ø31.75	ø31.75	ø31.75	ø31.75	ø31.75	ø38.1	ø38.1	ø38.1	ø38.1	ø38.1	ø38.1	ø38.1
ø19.05	ø19.05	ø19.05	ø19.05	ø19.05	ø19.05	ø19.05	ø19.05	ø19.05	ø19.05	ø19.05	ø19.05
ø6.35	ø6.35	ø6.35	ø6.35	ø6.35	ø6.35	ø6.35	ø6.35	ø6.35	ø6.35	ø6.35	ø6.35
Cooling/Dry: -10°C~+43°C (DB), Heating: -20°C~+15°C (WB)											
63.0	63.0	64.5	65.0	63.0	63.5	63.5	65.0	65.5	65.5	66.5	67.0
60.0	60.0	61.5	62.0	60.0	60.5	60.5	62.0	62.5	62.5	63.5	64.0

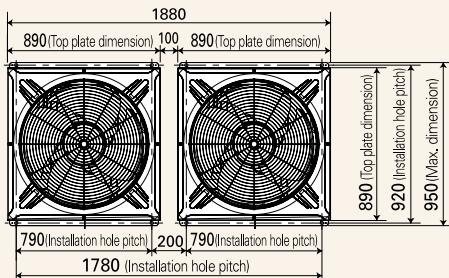
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DIMENSION OF UNIT COMBINATIONS

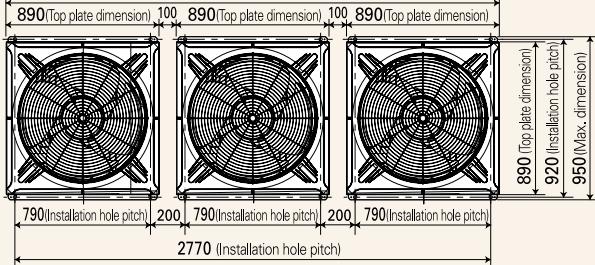
8 to 16 HP



18 to 32 HP



34 to 48 HP

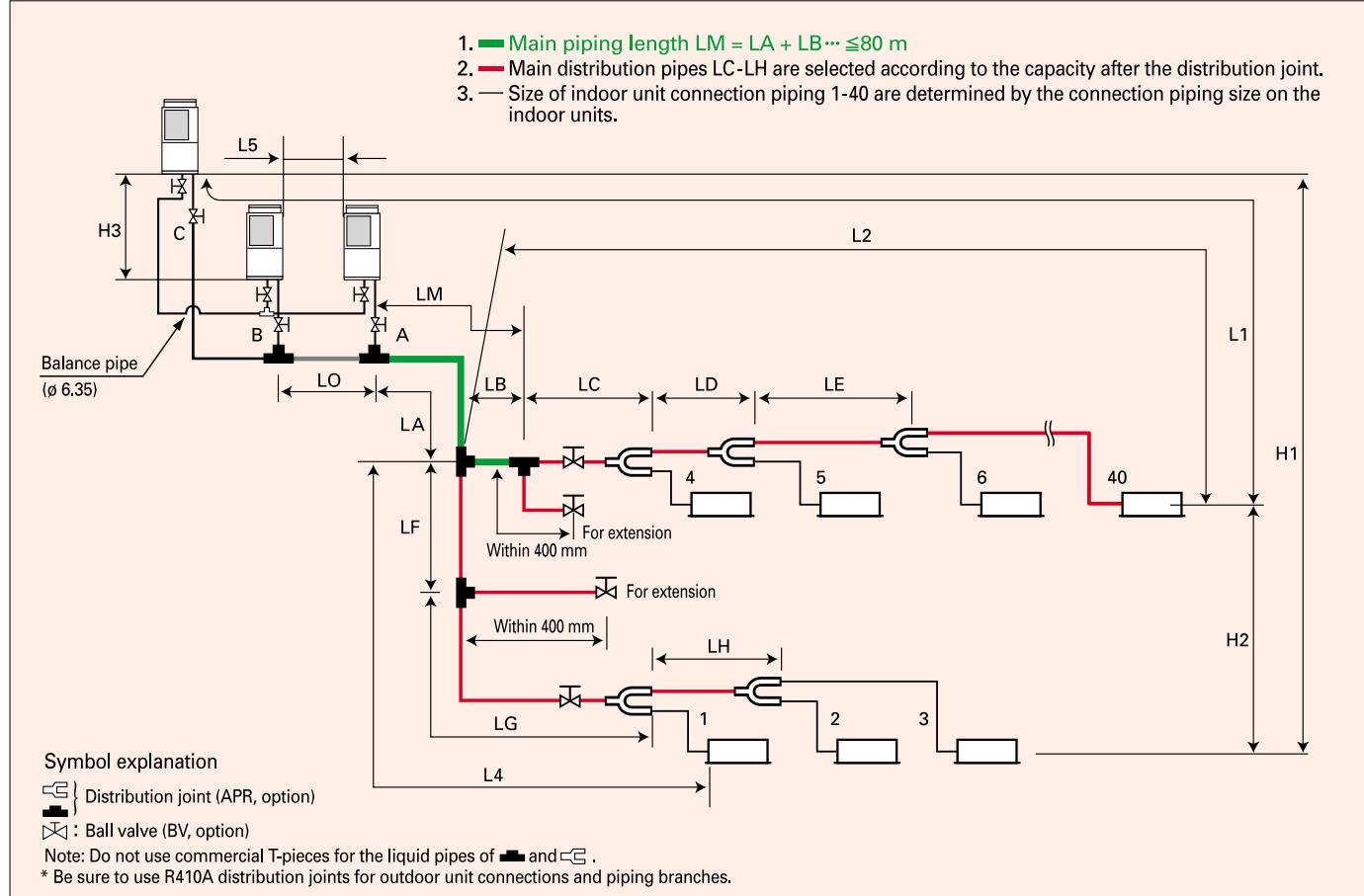


2 WAY ECO i

5N series

MULTI SYSTEM

■ Piping design



■ Ranges that apply to refrigerant piping lengths and to differences in installation heights

Items	Marks	Contents	Length (m)
Allowable piping length	L1	Max. piping length	Actual piping length ≤ 150 Equivalent piping length ≤ 175
	ΔL ($L2 - L4$)	Difference between the max. length and the min. length from the No.1 distribution joint	≤ 40
	LM	Max. length of main piping (at max. diameter)	≤ 80
	1, 2~40	Max. length of each distribution	≤ 30
	$L1+1+2+\dots+40 + A+B+LF+LG+LH$	Total max. piping length including length of each distribution (only narrow tubing)	≤ 300
	L5	Distance between PC and AD unit	≤ 10
Allowable elevation difference	H1	When outdoor unit is installed higher than indoor unit	≤ 50
		When outdoor unit is installed lower than indoor unit	≤ 40
	H2	Max. difference between indoor units	≤ 15
	H3	Max. difference between outdoor units	≤ 4

Note 1: The outdoor connection main piping (LO part) depends on the total capacity of the outdoor units connected to the end.

Note 2: When the main piping length (L1) (equivalent length) exceeds 90 m, increase the size of both the gas and liquid main piping (LM) by 1 step.

■ System limitations

Max. number of combined outdoor units	3
Max. HP of combined outdoor units	135 kW (48 hp)
Max. number of connectable indoor units	40
Indoor/outdoor unit capacity ratio	50 - 130%

■ Additional refrigerant charge

Liquid piping size	Amount of refrigerant charge/m (g/m)
ø6.35	26
ø9.52	56
ø12.7	128
ø15.88	185
ø19.05	259
ø22.22	366

■ Distribution joint kits

Remarks	Model name	Cooling capacity after distribution
For outdoor unit	1. APR-CHP680BG	68.0 kW or less
	2. APR-CHP1350BG	135.0 kW or less
For indoor unit	3. APR-P160BG	22.4 kW or less
	4. APR-P680BG	68.0 kW or less
	5. APR-P1350BG	135.0 kW or less

■ Refrigerant piping

Piping size (mm)			
O material		1/2 H, H material	
Outer diameter	Wall thickness	Outer diameter	Wall thickness
ø 6.35	t 0.8	ø 25.4	t 1.0
ø 9.52	t 0.8	ø 28.58	t 1.0
ø 12.7	t 0.8	ø 31.75	t 1.1
ø 15.88	t 1.0	ø 38.1	t 1.15
ø 19.05	t 1.0	ø 41.28	t 1.20
ø 22.22	t 1.15		

Note: When pipe bending is to be performed, the bending radius shall be at least 4 times the outer diameter. Also, take sufficient care to prevent pipe collapse and damage at the time of bending.



■ 2 WAY ECO-i 5N series piping sizes

● Main pipe sizes (LA)

HP	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48
Combined outdoor units	8	10	12	14	16	10 8	12 8	14 8	16 8	14 12	16 12	16 14	16 16								
Gas pipe (mm)	ø19.05	ø22.22	ø25.4			ø28.58						ø31.75					ø38.1				
Liquid pipe (mm)	ø9.52		ø12.7			ø15.88										ø19.05					

Note 1: When future expansion is planned, select the piping diameter according to the total HP after expansion.

Note 2: The balance piping size is ø6.35.

Note 3: Max. length for the main pipe (LM); when the length exceeds 50 m, the size of the Gas pipe shall be increased by one size from the main pipe size up to 50 m. (For lengths in excess of 50 m, select from the above main pipes size table.)

● Main piping size between outdoor units (LO)

Select the piping size between outdoor units according to the main pipe size (LA) of the above table.

● Main piping size after distribution (LB, LC, ...)

Total capacity after distribution	Below kW	7.1	16.0	22.5	30.0	42.0	52.4	70.0	98.0	—
Over kW	—	7.1	16.0	22.5	30.0	42.0	52.4	70.0	98.0	—
Piping size	Gas pipe (mm)	ø 12.7	ø 15.88	ø 19.05	ø 22.22	ø 25.4	ø 28.58	ø 31.75	ø 38.1	—
	Liquid pipe (mm)		ø 9.52			ø 12.7	ø 15.88	ø 19.05		—

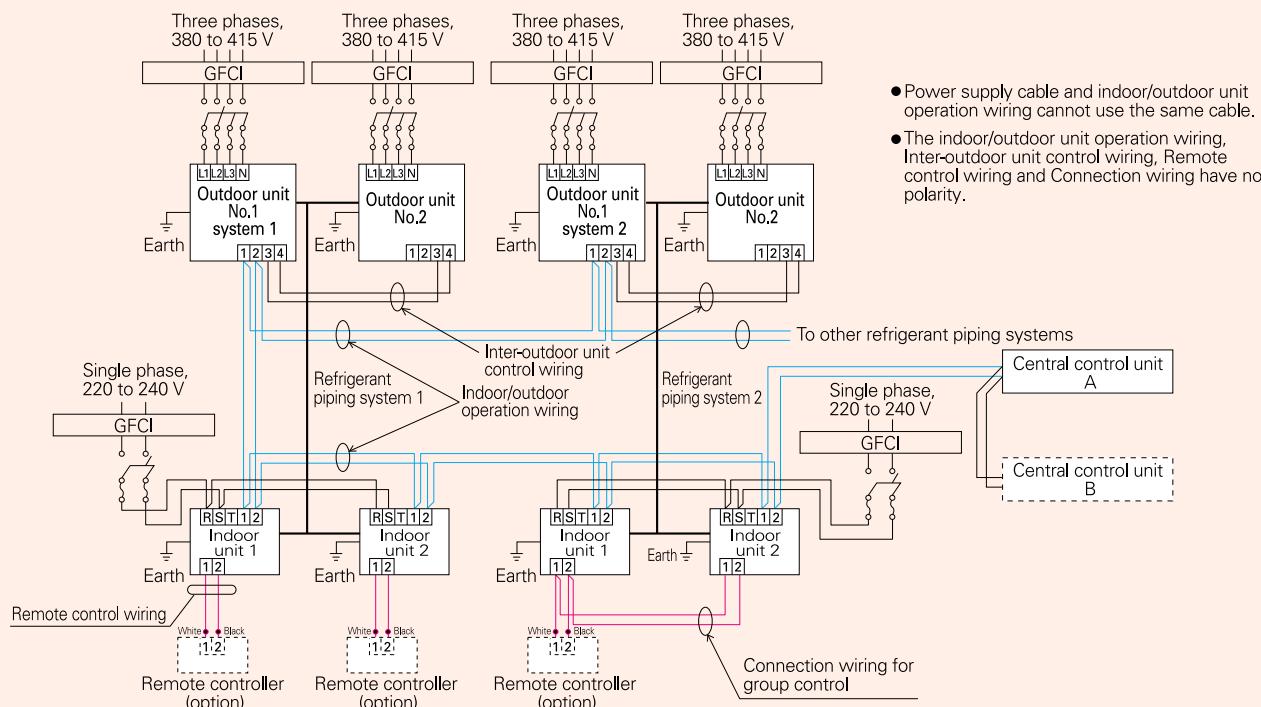
Note 1: The outdoor unit connection main pipe (LO part) depends on the total capacity of the outdoor units connected to the end. Select the piping size from the table for the main pipe size after distribution.

Note 2: When the total capacity of the indoor units connected to the end differs from the total capacity of the outdoor units, select the main pipe size according to the total capacity of the outdoor units. (Especially the main pipe part of LA, LB, LF, etc.)

● Indoor unit connection piping (1 to 40)

Indoor unit type	7 type	9 type	12 type	16 type	18 type	25 type	36 type	48 type	60 type	76 type	96 type
Equivalent HP	0.8	1	1.3	1.6	2	2.5	4	5	6	8	10
Piping between solenoid valve kit and indoor connection piping	Gas pipe (mm)		ø 12.7				ø 15.88		ø 19.05	ø 22.22	
	Liquid pipe (mm)		ø 6.35				ø 9.52				ø 19.05

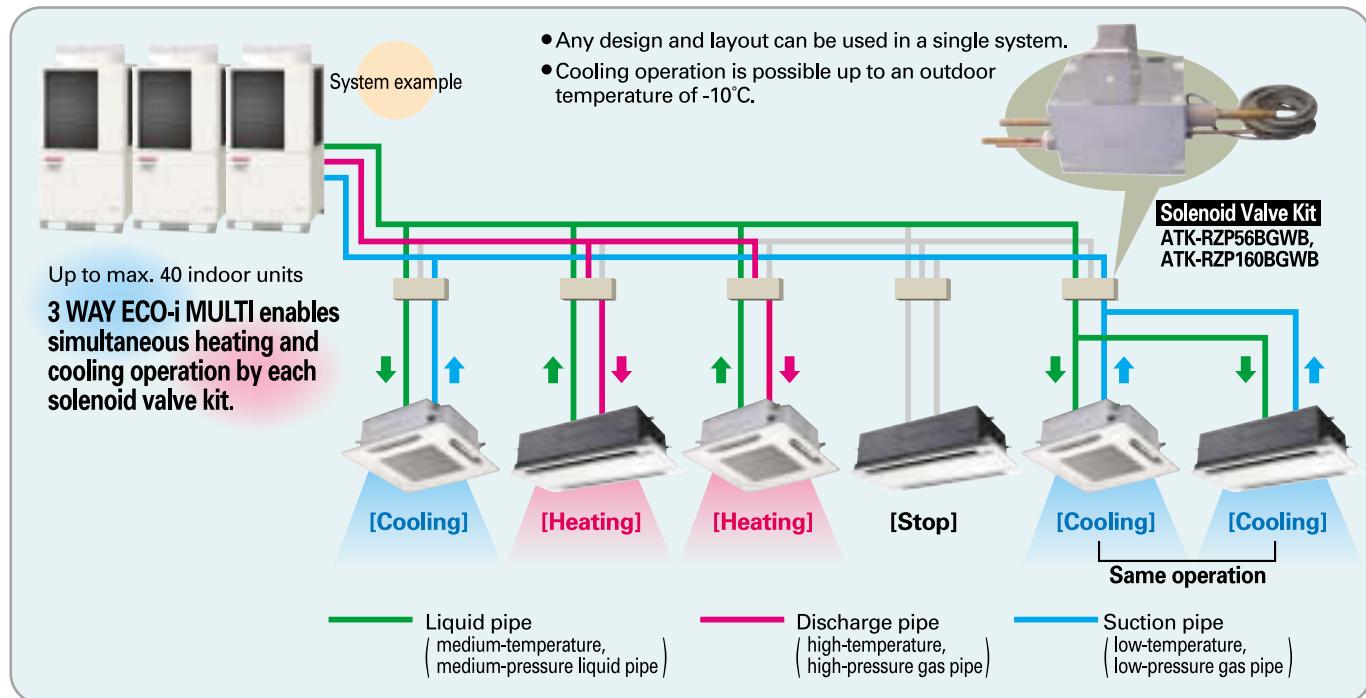
■ Recommended wiring diagram



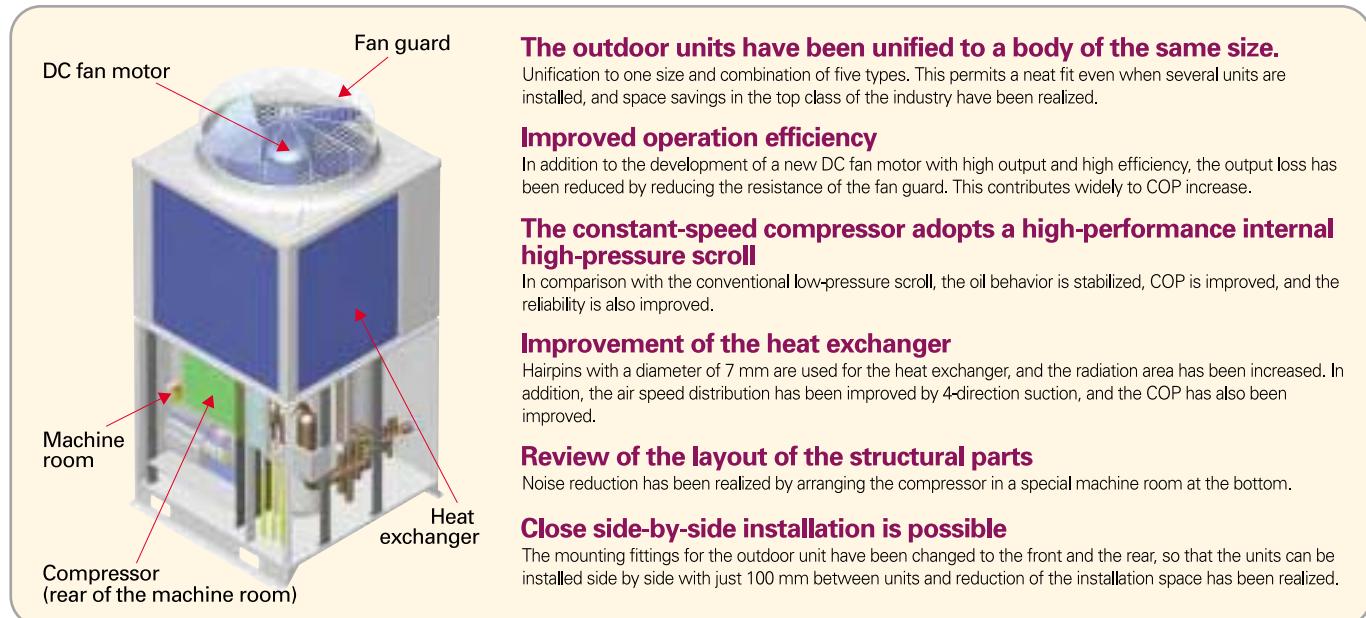
3 WAY ECO-i MULTI SYSTEM

New 3 WAY ECO-i MULTI
simultaneous heating

Fully-automatic simultaneous Cooling/Heating operation and heat recovery



The advanced technology of 3 WAY ECO-i MULTI



with use of R410A enables and cooling operation



■ 3 WAY ECO-i MULTI operation patterns (10 HP system)

Example: in case of 3 WAY ECO-i MULTI: 10 HP outdoor unit x 1 – 2 HP indoor unit x 5,

Single system: 2 HP outdoor unit x 5 – 2 HP indoor unit x 5.

Pattern example	3 WAY ECO-i MULTI system outline (examples)	Comparison between 3 WAY ECO-i system and single system			Outdoor unit (load: HP)	
		System comparison	Compressor power load	Heat exchanger radiation/ endothermic load		
Cooling load (HP) : Heating load (HP) Indoor unit total load (HP)		Comparison between 3 WAY ECO-i system and single system			HP comparison with a single system	
Only cooling Cooling load 10 HP Indoor unit total load 10 HP			10	10	100%	
Cooling > Heating Cooling load 4 HP > Heating load 2 HP Indoor unit total load 6 HP			6	6	67%	
Cooling < Heating Cooling load 2 HP < Heating load 8 HP Indoor unit total load 10 HP			10	10	80%	
Cooling = Heating Cooling load = Heating load 4 HP Indoor unit total load 8 HP			8	8	50%	

** Compressor AC: Constant-speed compressor, DC: DC inverter compressor

MINI ECO-i

2 WAY ECO-i 5N series

3 WAY ECO-i

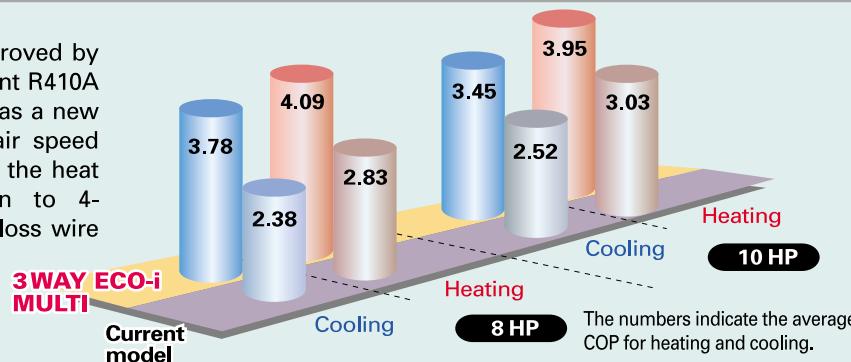
INDOOR UNITS

OPTIONAL PARTS

3 WAY ECO-i MULTI SYSTEM

More excellent energy saving

The operation efficiency has been improved by using the highly efficient new refrigerant R410A and a DC inverter compressor as well as a new DC fan motor, improvement of the air speed distribution by changing the design of the heat exchanger from 3-direction suction to 4-direction suction, and by using a low-loss wire guard for the fan guard.

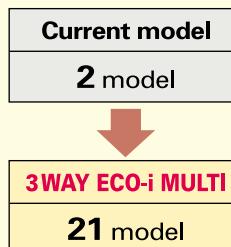


Line-up expansion

The 3 WAY ECO-i series has five DC inverter outdoor units from 8 HP to 16 HP as the basic models, and by combination of up to three units, an air-conditioning capacity of 8 HP to 48 HP can be set according to the user needs.

HP	8	10	12	14	16	18	20	22	24	26	28
3 WAY ECO-i MULTI	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
Inverter unit	8	10	12	14	16	10	10	12	14	16	16
						8	10	10	10	10	12

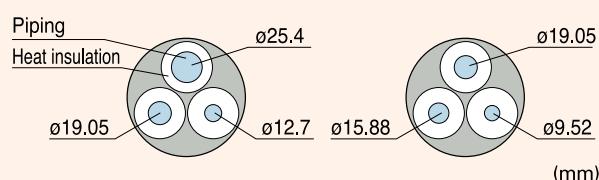
HP	30	32	34	36	38	40	42	44	46	48
3 WAY ECO-i MULTI	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
Inverter unit	16	16	10	10	10	10	10	12	14	16
	14	16	10	10	12	14	16	16	16	16
			14	16	16	16	16	16	16	16



Reduction of the piping cost and construction labor by smaller piping size

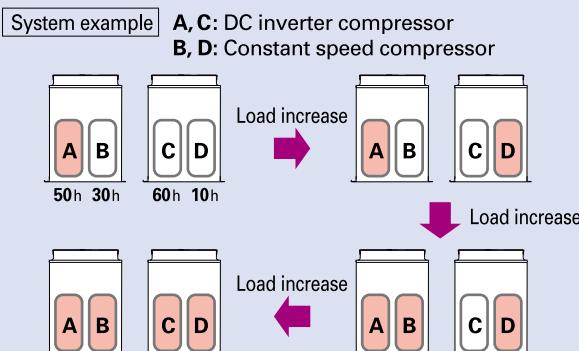
By adoption of R410A with low pressure loss, it was possible to reduce the pipe sizes for discharge, suction and liquid pipes.

This makes it possible to aim for reduced piping space, improved workability at the site, and reduction of the piping material costs.



Extended compressor life by uniform compressor operation times

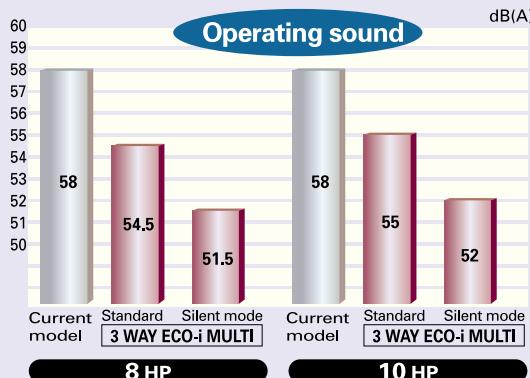
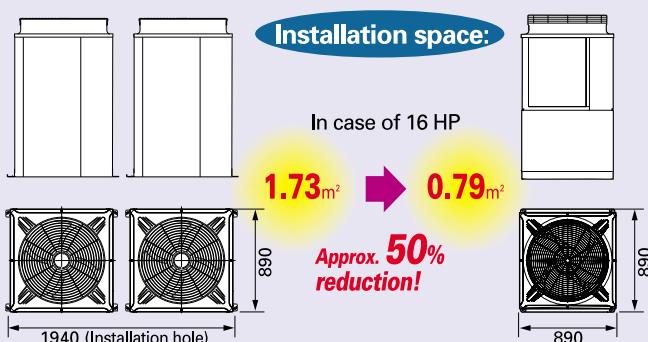
The total operation time of the compressors is monitored by a microcomputer, so that there is no unbalance for the operation times of all compressors in the same refrigerant system, and compressors with a shorter operation time are operated with preference.





Smallest installation space in the industry! Further reduction of the operating sound

The five DC inverter types from 8 HP to 16 HP have been unified to the same external dimensions by using a two-room construction with the compressor and other structural parts at the lower room of the outdoor unit and the heat exchanger at the upper room of the outdoor unit. In this way, the smallest installation space in the industry and low operating sound have been realized.



Extended operating range

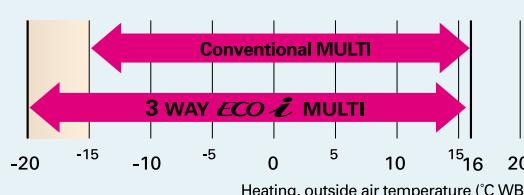
Cooling operation range:

- The cooling operation range has been extended from -5°C to -10°C by changing the outdoor fan to an inverter type.



Heating operation range:

- Stable heating operation even with an outside air temperature of -20°C
- The heating operation range has been extended from -15°C to -20°C by use of a compressor with a high-pressure vessel.



Wide temperature setting range

[Wired remote control heating temperature setting range]

Conventional MULTI: 16 to 26°C

ECO-i Series: 16 to 30°C

● Built-in "Demand function" ^{*1} for reduced power consumption

The 3 WAY ECO-i MULTI series has a built-in demand function which uses the inverter characteristics. With this demand function, the power consumption can be set in three steps^{*2}, and operation at optimum performance is performed according to the setting and the power consumption. This function is useful to reduce the annual power consumption and to save electricity fees while maintaining comfort.

(*1) An outdoor Seri-Para I/O unit is required for demand input.

(*2) Setting is possible as 0% or in the range from 40 to 100% (in steps of 5%). At the time of shipping, setting has been done to the three steps of 0%, 70%, and 100%.

● An emergency backup function is provided

● Long piping design

Actual piping length 100m → 150m
Total piping length 150m → 300m

● Increased max. number of connectable indoor units

System (HP)	8	10	12	14	16	18	20	22	24~48
Connectable indoor units	13	16	19	23	26	29	33	36	40

3WAY ECO i MULTI SYSTEM

■ Outdoor unit specifications

Appearance						
HP		8	10	12	14	16
Model name (SPW-)		CR704GDZH8B	CR904GDZH8B	CR1154GDZH8B	CR1304GDZH8B	CR1404GDZH8B
Power supply		380/400/415V-3 phase/50Hz				
Capacity	Cooling (kW)	22.4	28.0	33.5	40.0	45.0
	(BTU/h)	76,400	95,500	114,300	136,500	153,600
Capacity	Heating (kW)	25.0	31.5	37.5	45.0	50.0
	(BTU/h)	85,300	107,500	128,000	153,600	170,600
COP	Cooling (W/W)	3.78	3.45	3.41	3.45	3.38
	Heating (W/W)	4.09	3.95	3.81	3.91	3.79
Dimensions(HxWxD) (mm)		1,887 x 890 x 890 (+60)				
Net weight (kg)		290	290	290	350	350
Electrical rating	Cooling Running amperes (A)	10.0/9.5/9.2	13.7/13.0/12.6	16.6/15.7/15.2	20.0/19.0/18.3	23.0/21.8/21.0
	Power input (kW)	5.93	8.12	9.82	11.6	13.3
	Heating Running amperes (A)	10.3/9.8/9.4	13.5/12.8/12.3	16.6/15.8/15.2	19.9/18.9/18.2	22.8/21.6/20.9
	Power input (kW)	6.11	7.97	9.84	11.5	13.2
Starting amperes (A)		59/62/64	66/69/72	69/72/75	68/71/73	78/80/82
Air circulation (m³/min)		150	160	180	200	220
Refrigerant amount at shipment (kg)		11.8				
Piping connection	Suction pipe (mm)	ø19.05	ø22.22	ø25.4	ø25.4	ø28.58
	Discharge pipe (mm)	ø15.88	ø19.05	ø19.05	ø22.22	ø22.22
	Liquid pipe (mm)	ø9.52	ø9.52	ø12.7	ø12.7	ø12.7
	Balance pipe (mm)	ø9.52	ø9.52	ø9.52	ø9.52	ø9.52
Ambient temperature operating range		Cooling/dry: -10°C~+43°C (DB), Heating: -20°C ~+15°C (WB) Simultaneous operation: -10°C~+43°C (DB)				
Pressure sound	Normal mode dB(A)	54.5	55	56	60	61
	Silent mode dB(A)	51.5	52	53	57	58
Power sound	Normal mode dB(A)	65.5	66	67	71	72

* The values for performance and electric characteristics apply under the following test conditions.

Data subject to change without notice.

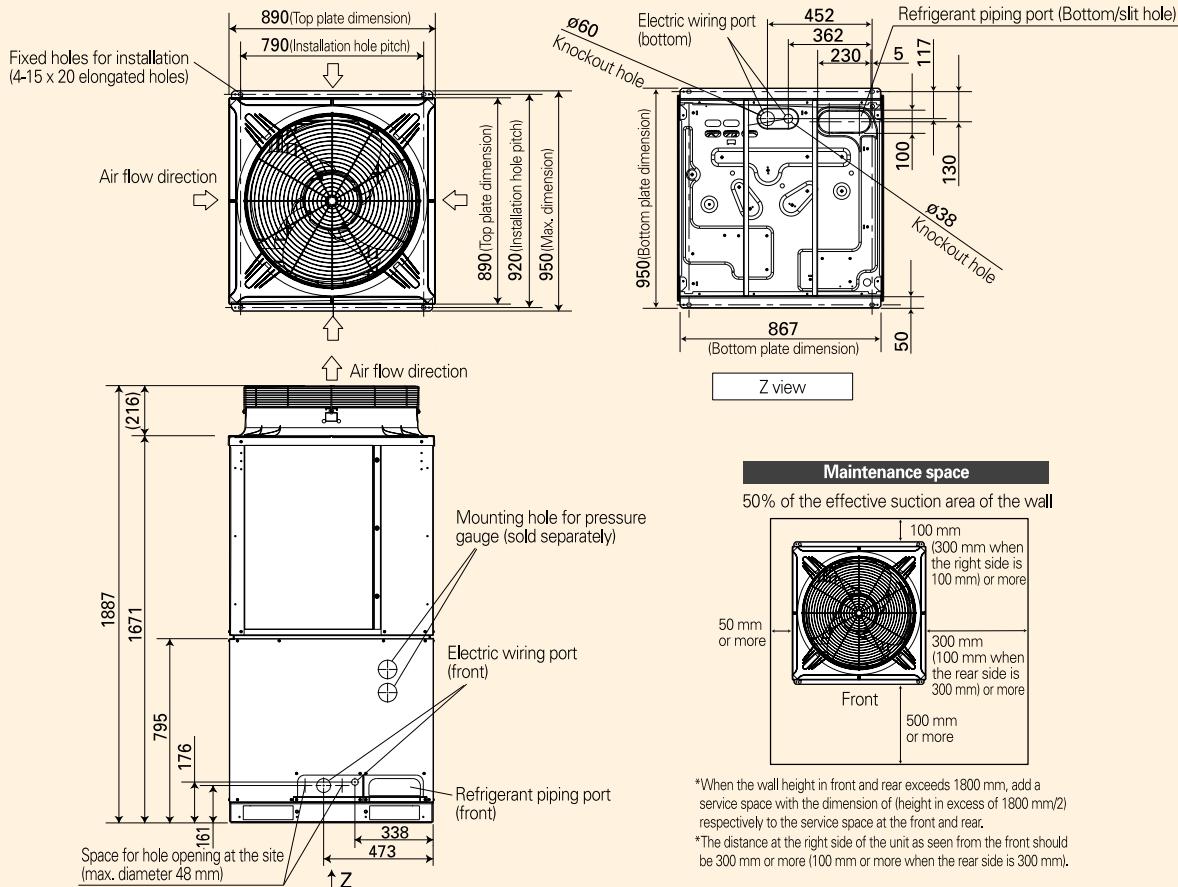
At the time of cooling: Indoor suction air temperature 27°C DB, 19°C WB, outdoor suction air temperature 35°C DB

At the time of heating: Indoor suction air temperature 20°C DB, outdoor suction air temperature 7°C DB, 6°C WB

* The operating sound has been measured in an anechoic chamber, and it is the value one meter in front of the outdoor unit at a height of 1.5 m. With actual installation, the indication value normally differs widely according to the surrounding noise and reverberations.

* For mixed heating and cooling operation with an outdoor temperature in excess of 24°C DB, please use 50% or more of the horsepower of the outdoor unit for cooling operation.

External dimension drawings



*When the wall height in front and rear exceeds 1800 mm, add a service space with the dimension of (height in excess of 1800 mm/2) respectively to the service space at the front and rear.

*The distance at the right side of the unit as seen from the front should be 300 mm or more (100 mm or more when the rear side is 300 mm).

Optional parts

Distribution joint kit

For indoor units >

- APR-RZP224BGB (Capacity after distribution: 22.4 kW or lower)
- APR-RZP680BGB (Capacity after distribution: Over 22.4 kW to 68.0 kW)
- APR-RZP1350BGB (Capacity after distribution: Over 68.0 kW to 135.0 kW)

For outdoor units >

- APR-CHRZP680BGB (Capacity after distribution: 68.0 kW or lower)
- APR-CHRZP1350BGB (Capacity after distribution: Over 68.0 kW to 135.0 kW)

The following parts must be installed for each ECO-i 3 WAY MULTI indoor unit.

Solenoid valve kit

- ATK-RZP56BGWB
(For 7 to 18 indoor unit)
- ATK-RZP160BGWB
(For 25 to 60 indoor unit)



* When 8 or 10 HP indoor units are used, connect two solenoid valve kits in parallel.

* 8 HP and 10 HP indoor unit: ATK-RZP160BGWB x 2

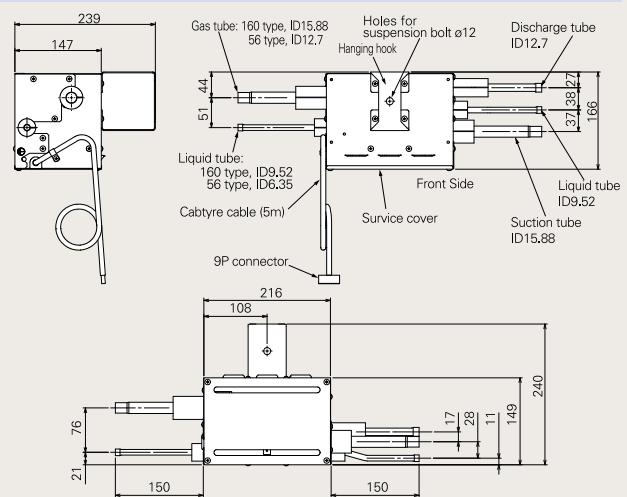
* For conference rooms and other locations where low noise is required, pay attention to the installation location and install on a corridor etc.

Solenoid valve controller

- ACC-3WAY-AGB



This controls the rap valve kit and the solenoid valve kit.



- A solenoid valve controller (ACC-3 WAY-AGB) is required for connection of the cable of the solenoid valve kit.
- In order to prevent the refrigerant noise occurring at the time of refrigerant control, install within the specified distance range and on a corridor or another location not in the room.

3 WAY ECO i MULTI SYSTEM

OUTDOOR UNITS SPECIFICATIONS

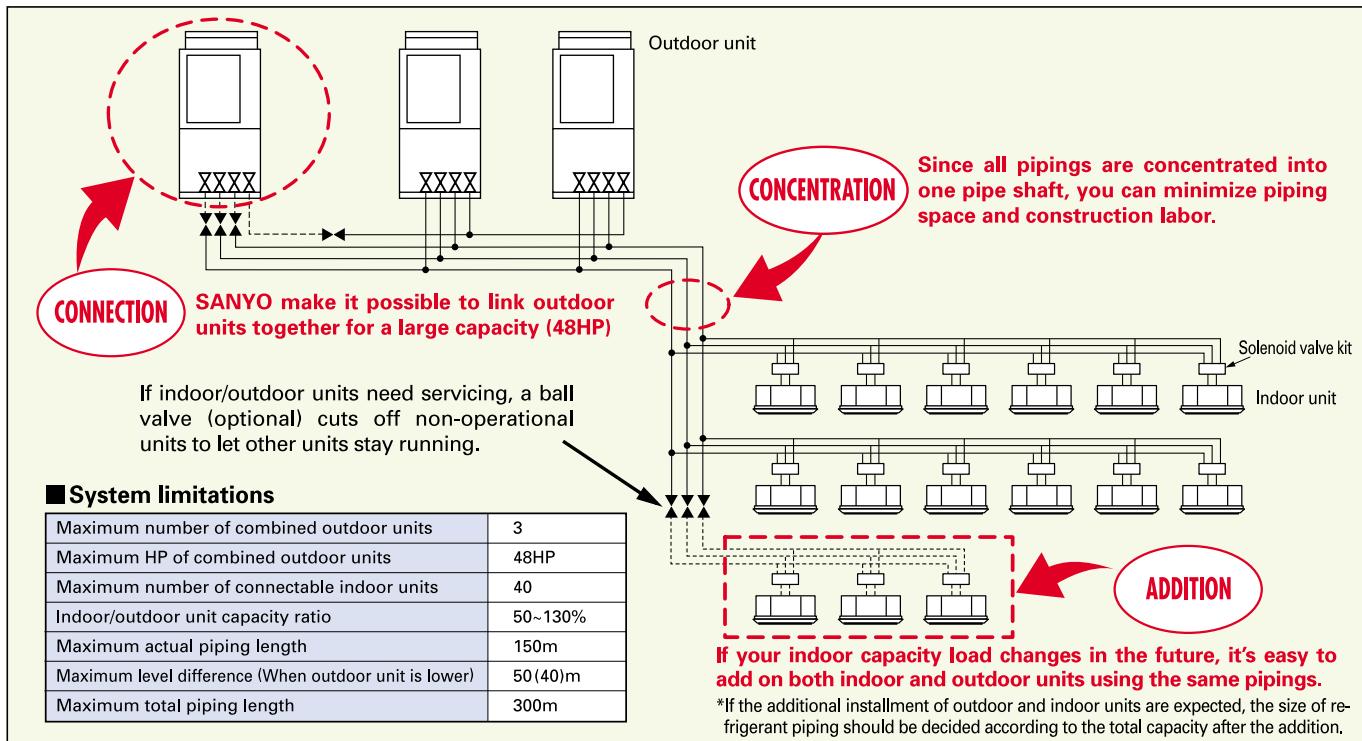
Appearance		 									
HP		8	10	12	14	16	18	20	22	24	
Model name (SPW-)		CR704GDZH8B	CR904GDZH8B	CR1154GDZH8B	CR1304GDZH8B	CR1404GDZH8B	CR704GDZH8B	CR904GDZH8B	CR904GDZH8B	CR1154GDZH8B	CR1304GDZH8B
Power supply		380/400/415V-3phase/50Hz									
Capacity	Cooling		(kW)	22.4	28.0	33.5	40.0	45.0	50.4	56.0	61.5
	(BTU/h)			76,400	95,500	114,300	136,500	153,600	172,000	191,100	219,900
Capacity	Heating		(kW)	25.0	31.5	37.5	45.0	50.0	56.5	63.0	69.0
	(BTU/h)			85,300	107,500	128,000	153,600	170,600	192,800	215,000	235,500
COP	Cooling		(W/W)	3.78	3.45	3.41	3.45	3.38	3.57	3.46	3.44
	Heating		(W/W)	4.09	3.95	3.81	3.91	3.79	4.01	3.96	3.88
Dimensions (HxWxD)		(mm) 1,887 x 890 x 890 (+60)									
Net weight		(kg) 290 290 290 350 350 580 580 580 640									
Electrical ratings	Cooling		Running amperes (A)	10.0/9.5/9.2	13.7/13.0/12.6	16.6/15.7/15.2	20.0/19.0/18.3	23.0/21.8/21.0	23.8/22.6/21.8	27.3/26.0/25.0	30.2/28.7/27.7
	Power input (kW)			5.93	8.12	9.82	11.6	13.3	14.1	16.2	17.9
Electrical ratings	Heating		Running amperes (A)	10.3/9.8/9.4	13.5/12.8/12.3	16.6/15.8/15.2	19.9/18.9/18.2	22.8/21.6/20.9	23.8/22.6/21.8	26.8/25.5/24.6	30.0/28.5/27.5
	Power input (kW)			6.11	7.97	9.84	11.5	13.2	14.1	15.9	17.8
Air circulation		(m³/min) 150 160 180 200 220 150+160 160+160 160+180 160+200									
Refrigerant amount at shipment		(kg) 11.8 23.6									
Piping connections	Suction pipe		(mm)	ø19.05	ø22.22	ø25.4	ø25.4	ø28.58	ø28.58	ø28.58	ø28.58
	Discharge pipe		(mm)	ø15.88	ø19.05	ø19.05	ø22.22	ø22.22	ø22.22	ø22.22	ø25.4
	Liquid pipe		(mm)	ø9.52	ø9.52	ø12.7	ø12.7	ø12.7	ø15.88	ø15.88	ø15.88
	Balance pipe		(mm)	ø9.52	ø9.52	ø9.52	ø9.52	ø9.52	ø9.52	ø9.52	ø9.52
Ambient temperature operating range		Cooling/Dry: -10°C~+43°C (DB), Heating: -20°C~+15°C (WB) Simultaneous operation: -10°C~+43°C (DB)									
Operating sound	Normal mode		dB(A)	54.5	55	56	60	61	58	58	58.5
	Silent mode		dB(A)	51.5	52	53	57	58	55	55	55.5

Note: Rated conditions Cooling: indoor air temperature 27°C CB/19°C WB, outdoor air temperature 35°C DB

Heating: indoor air temperature 20°C DB, outdoor air temperature 7°C DB/6°C WB

* For mixed heating and cooling operation with an outdoor temperature in excess of 24°C DB, please use 50% or more of the horsepower of the outdoor unit for cooling operation.

SYSTEM EXAMPLE

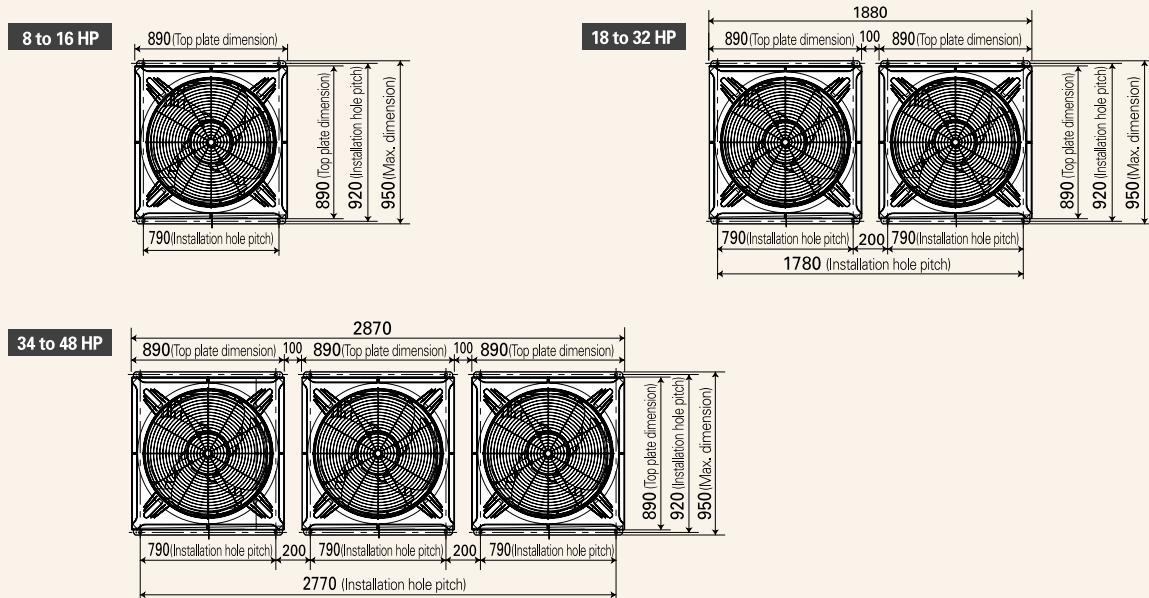




													
26	28	30	32	34	36	38	40	42	44	46	48		
CR904GDZH8B CR1404GDZH8B	CR1154GDZH8B CR1404GDZH8B	CR1304GDZH8B CR1404GDZH8B	CR1404GDZH8B CR1404GDZH8B	CR904GDZH8B CR904GDZH8B CR1304GDZH8B	CR904GDZH8B CR904GDZH8B CR1404GDZH8B	CR904GDZH8B CR1154GDZH8B CR1304GDZH8B	CR904GDZH8B CR1404GDZH8B CR1404GDZH8B	CR904GDZH8B CR1154GDZH8B CR1404GDZH8B	CR1154GDZH8B CR1404GDZH8B CR1404GDZH8B	CR1304GDZH8B CR1404GDZH8B CR1404GDZH8B	CR1404GDZH8B CR1404GDZH8B CR1404GDZH8B		
380/400/415V-3phase/50Hz													
73.0	78.5	85.0	90.0	96.0	101.0	107.0	113.0	118.0	124.0	130.0	135.0		
249,100	267,900	290,100	307,100	327,600	344,700	363,400	385,600	402,700	421,400	443,600	460,700		
81.5	87.5	95.0	100.0	108.0	113.0	119.0	127.0	132.0	138.0	145.0	150.0		
278,100	300,300	324,200	343,000	368,500	385,600	407,800	431,700	450,400	470,900	494,800	511,900		
3.41	3.40	3.41	3.38	3.45	3.41	3.42	3.42	3.40	3.41	3.40	3.38		
3.84	3.80	3.85	3.79	3.93	3.88	3.84	3.88	3.84	3.81	3.83	3.79		
1,887 x 1,880 x 890 (+60)				1,887 x 2,870 x 890 (+60)									
640	640	700	700	930	930	990	990	990	990	1,050	1,050		
36.5/34.7/33.5	39.4/37.5/36.1	43.0/40.8/39.4	45.9/43.6/42.1	47.5/45.1/43.5	50.5/48.0/46.3	53.0/51.0/49.0	57.0/54.0/52.0	60.0/57.0/55.0	63.0/60.0/58.0	66.0/63.0/60.0	69.0/65.0/63.0		
21.4	23.1	24.9	26.6	27.8	29.6	31.3	33.0	34.7	36.4	38.2	39.9		
36.2/34.4/33.1	39.3/37.3/36.0	42.6/40.5/39.0	45.6/43.3/41.7	46.9/44.6/43.0	49.7/47.2/45.5	53.0/50.0/48.0	56.0/54.0/52.0	59.0/56.0/54.0	63.0/59.0/57.0	65.0/62.0/60.0	68.0/65.0/63.0		
21.2	23.0	24.7	26.4	27.5	29.1	31.0	32.7	34.4	36.2	37.9	39.6		
160+220	180+220	200+220	220+220	160+160+200	160+160+220	160+180+220	160+200+220	160+220+220	180+220+220	200+220+220	220+220+220		
23.6				35.4									
ø31.75	ø31.75	ø31.75	ø31.75	ø31.75	ø38.1	ø38.1	ø38.1	ø38.1	ø38.1	ø38.1	ø38.1		
ø25.4	ø28.58	ø28.58	ø28.58	ø28.58	ø28.58	ø31.75	ø31.75	ø31.75	ø31.75	ø31.75	ø31.75		
ø19.05	ø19.05	ø19.05	ø19.05	ø19.05	ø19.05	ø19.05	ø19.05	ø19.05	ø19.05	ø19.05	ø19.05		
ø9.52	ø9.52	ø9.52	ø9.52	ø9.52	ø9.52	ø9.52	ø9.52	ø9.52	ø9.52	ø9.52	ø9.52		
Cooling/Dry: -10°C~+43°C (DB), Heating: -20°C~+15°C (WB) Simultaneous operation: -10°C~+24°C (DB)													
62	62.5	63.5	64	62.5	63	63	64.5	64.5	65	65.5	66		
59	59.5	60.5	61	59.5	60	60	61.5	61.5	62	62.5	63		

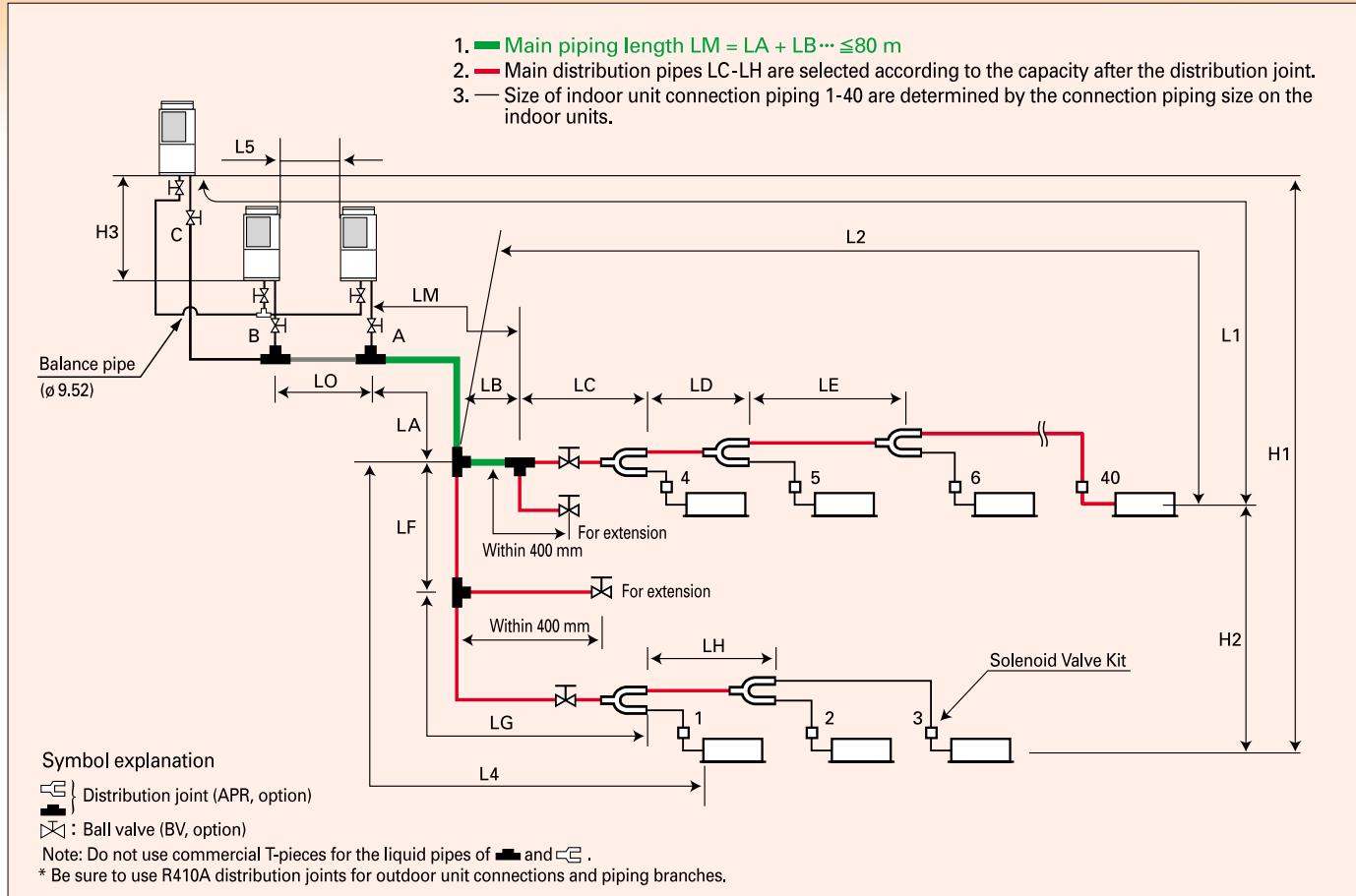
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DIMENSION OF UNIT COMBINATIONS



3 WAY ECO i MULTI SYSTEM

■ Piping design



■ Ranges that apply to refrigerant piping lengths and to differences in installation heights

Items	Marks	Contents	Length (m)
Allowable piping length	L1	Max. piping length	Actual piping length ≤ 150 Equivalent piping length ≤ 175
	ΔL (L2 - L4)	Difference between the max. length and the min. length from the No.1 distribution joint	≤ 40
	LM	Max. length of main piping (at max. diameter)	≤ 80
	1, 2 ~ 40	Max. length of each distribution	≤ 30
	L1+1+2+...+40	Total max. piping length including length of each distribution (only narrow tubing)	≤ 300
	L5	Distance between PC and AD unit	≤ 10
Allowable elevation difference	H1	When outdoor unit is installed higher than indoor unit	≤ 50
		When outdoor unit is installed lower than indoor unit	≤ 40
	H2	Max. difference between indoor units	≤ 15
	H3	Max. difference between outdoor units	≤ 4

Note 1: The outdoor connection main piping (LO part) depends on the total capacity of the outdoor units connected to the end.

Note 2: When the main piping length (L1) (equivalent length) exceeds 90 m, increase the size of both the gas and liquid main piping (LM) by 1 step.

■ System limitations

Max. number of combined outdoor units	3
Max. HP of combined outdoor units	135 kW (48 hp)
Max. number of connectable indoor units	40
Indoor/outdoor unit capacity ratio	50 - 130%

■ Additional refrigerant charge

Liquid piping size	Amount of refrigerant charge/m (g/m)
ø6.35	26
ø9.52	56
ø12.7	128
ø15.88	185
ø19.05	259
ø22.22	366

■ Distribution joint kits

Remarks	Model name	Cooling capacity after distribution
For outdoor unit	1. APR-CHRZP680BGB	68.0 kW or less
	2. APR-CHRZP1350BGB	135.0 kW or less
For indoor unit	3. APR-RZP224BGB	22.4 kW or less
	4. APR-RZP680BGB	68.0 kW or less
	5. APR-RZP1350BGB	135.0 kW or less

Piping size (mm)			
O material		1/2 H, H material	
Outer diameter	Wall thickness	Outer diameter	Wall thickness
ø 6.35	t 0.8	ø 25.4	t 1.0
ø 9.52	t 0.8	ø 28.58	t 1.0
ø 12.7	t 0.8	ø 31.75	t 1.1
ø 15.88	t 1.0	ø 38.1	t 1.15
ø 19.05	t 1.0	ø 41.28	t 1.20
ø 22.22	t 1.15		

Note: When pipe bending is to be performed, the bending radius shall be at least 4 times the outer diameter. Also, take sufficient care to prevent pipe collapse and damage at the time of bending.



■ 3 WAY ECO-i MULTI piping sizes

● Main pipe sizes (LA)

HP	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48
Combined outdoor units	8	10	12	14	16	10	10	12	14	16	16	16	16	14	16	16	16	16	16	16	16
Suction pipe (mm)	ø19.05	ø22.22	ø25.4			ø28.58						ø31.75					ø38.1				
Discharge pipe (mm)	ø15.88	ø19.05		ø22.22			ø25.4					ø28.58					ø31.75				
Liquid pipe (mm)	ø9.52		ø12.7			ø15.88										ø19.05					

Note 1: When future expansion is planned, select the piping diameter according to the total HP after expansion.

Note 2: The balance piping size is ø9.52.

Note 3: Max. length for the main pipe (LM); when the length exceeds 50 m, the size of the suction pipe and the discharge pipe shall be increased by one size from the main pipe size up to 50 m. (For lengths in excess of 50 m, select from the above main pipes size table.)

● Main piping size between outdoor units (LO)

Select the piping size between outdoor units according to the main pipe size (LA) of the above table.

● Main tubing size after distribution (LB, LC, ...)

Total capacity after distribution	Below kW	7.1	16.0	26.2	30.0	36.4	42.0	47.6	58.8	70.0	75.6	98.0	103.6	—
Over kW	—	7.1	16.0	26.2	30.0	36.4	42.0	47.6	58.8	70.0	75.6	98.0	103.6	
Piping size	Suction pipe (mm)	ø 15.88	ø 19.05	ø 19.05	ø 22.22	ø 25.4	ø 25.4	ø 28.58	ø 28.58	ø 28.58	ø 28.58	ø 31.75	ø 31.75	ø 38.1
	Discharge pipe (mm)	ø 12.7	ø 15.88	ø 15.88	ø 19.05	ø 19.05	ø 22.22	ø 22.22	ø 22.22	ø 25.4	ø 25.4	ø 28.58	ø 28.58	ø 31.75
	Liquid pipe (mm)	ø 9.52	ø 9.52	ø 9.52	ø 9.52	ø 12.7	ø 12.7	ø 12.7	ø 12.7	ø 15.88	ø 15.88	ø 19.05	ø 19.05	ø 19.05

Note 1: The outdoor unit connection main pipe (LO part) depends on the total capacity of the outdoor units connected to the end. Select the piping size from the table for the main pipe size after distribution.

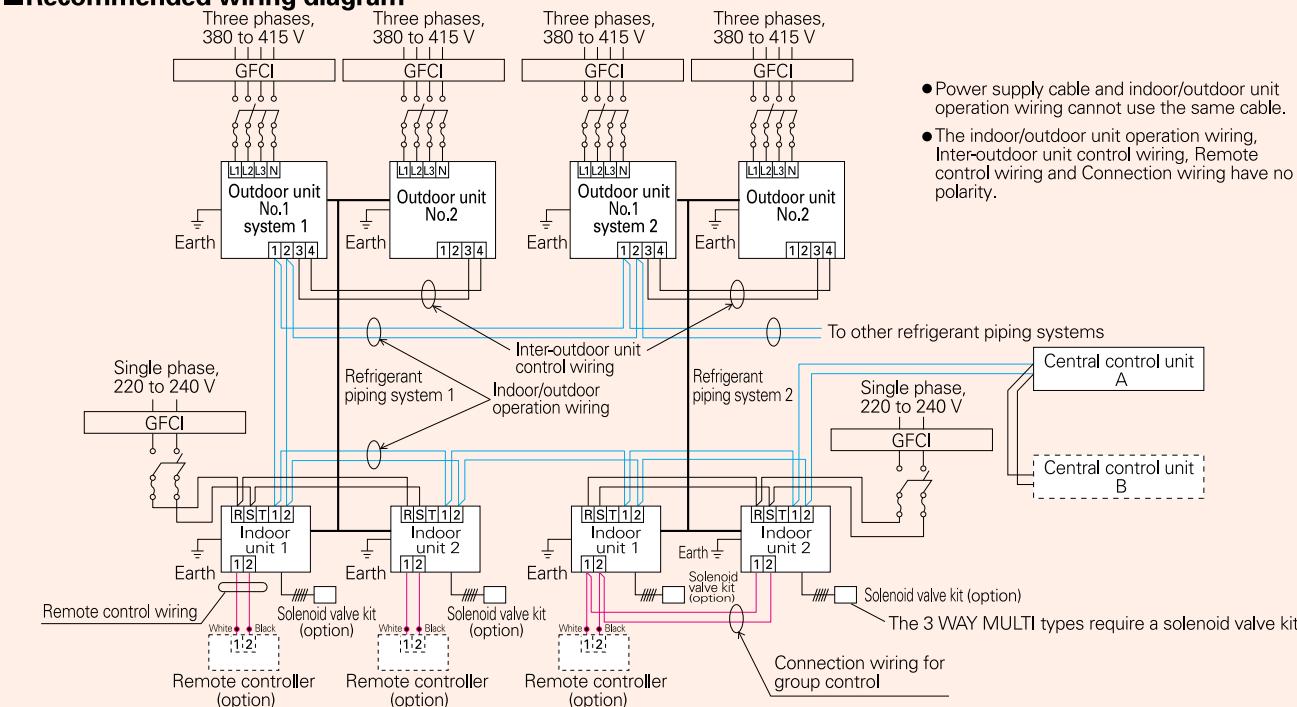
Note 2: When the total capacity of the indoor units connected to the end differs from the total capacity of the outdoor units, select the main pipe size according to the total capacity of the outdoor units. (Especially the main pipe part of LA, LB, LF, etc.)

● Indoor unit connection piping (1 to 40)

Indoor unit type	7 type	9 type	12 type	16 type	18 type	25 type	36 type	48 type	60 type	76 type*1	96 type*1
Equivalent HP	0.8	1	1.3	1.6	2	2.5	4	5	6	8	10
Piping between distribution and solenoid valve kit	Suction pipe (mm)				ø 15.88					ø 19.05	ø 22.22
	Discharge pipe (mm)				ø 12.7					ø 15.88	ø 19.05
	Liquid pipe (mm)				ø 9.52						
Piping between solenoid valve kit and indoor connection piping	Gas pipe (mm)			ø 12.7			ø 15.88			ø 19.05	ø 22.22
	Liquid pipe (mm)			ø 6.35			ø 9.52				

*1 When an indoor unit of type 76 or 96 is used, use the type 160 solenoid valve kit in parallel specification and branch the piping before/after the solenoid valve kit.

■ Recommended wiring diagram



INDOOR UNITS FOR DIRECT EXPANSION SYSTEM

Wide choice of models depending on the indoor requirements

Model size	7	9	12	16	18	22
Capacity	kW 2.2 2.5	Cooling 2.8 3.2	Heating	3.6 4.2	4.5 5.0	5.6 6.3
	BTU/h 7,500 8,500	Cooling 9,600 11,000	Heating	12,000 14,000	15,000 17,000	19,000 21,000
XM type (600 x 600) Semi-Concealed Cassette 4-Way Air Discharge		SPW-XM075XH Panel PNR-XM185	SPW-XM095XH Panel PNR-XM185	SPW-XM125XH Panel PNR-XM185	SPW-XM165XH Panel PNR-XM185	SPW-XM185XH Panel PNR-XM185
X type Semi-Concealed Cassette 4-Way Air Discharge		SPW-X075XH Panel PNR-XD484GHAB	SPW-X095XH Panel PNR-XD484GHAB	SPW-X125XH Panel PNR-XD484GHAB	SPW-X165XH Panel PNR-XD484GHAB	SPW-X185XH Panel PNR-XD484GHAB
XMR type (600 x 600) Semi-Concealed Cassette 4-Way Air Discharge		SPW-XMR74EXH56B Panel PNR-XM184EHA	SPW-XMR94EXH56B Panel PNR-XM184EHA	SPW-XMR124EXH56B Panel PNR-XM184EHA	SPW-XMR164EXH56B Panel PNR-XM184EHA	SPW-XMR184EXH56B Panel PNR-XM184EHA
SR type Semi-Concealed Cassette 2-Way Air Discharge		SPW-SR74GXH56B Panel PNR-S124GHB	SPW-SR94GXH56B Panel PNR-S124GHB	SPW-SR124GXH56B Panel PNR-S124GHB	SPW-SR164GXH56B Panel PNR-S124GHB	SPW-SR184GXH56B Panel PNR-S124GHB
ADR type Semi-Concealed Cassette 1-Way Air Discharge		SPW-ADR74GXH56B Panel PNR-AD124GHB	SPW-ADR94GXH56B Panel PNR-AD124GHB	SPW-ADR124GXH56B Panel PNR-AD124GHB		
LDR type Semi-Concealed Slim Cassette			SPW-LDR94GXH56B Panel PNR-LD254GHAB	SPW-LDR124GXH56B Panel PNR-LD254GHAB	SPW-LDR164GXH56B Panel PNR-LD254GHAB	SPW-LDR184GXH56B Panel PNR-LD254GHAB
U type Concealed Duct		SPW-U075XH	SPW-U095XH	SPW-U125XH	SPW-U165XH	SPW-U185XH
UR type Concealed-Rectangle Duct		SPW-U075SXHT	SPW-U095SXHT	SPW-U125SXHT	SPW-U165SXHT	SPW-U185SXHT
US type Concealed Duct		SPW-US075XH	SPW-US095XH	SPW-US125XH	SPW-US165XH	SPW-US185XH
FUR type Floor/Ceiling Slim Concealed Duct		SPW-FUR74EXH56B	SPW-FUR94EXH56B	SPW-FUR124EXH56B	SPW-FUR164EXH56B	SPW-FUR184EXH56B
UMR type Concealed Duct		SPW-UMR74EXH56B	SPW-UMR94EXH56B	SPW-UMR124EXH56B	SPW-UMR164EXH56B	SPW-UMR184EXH56B
DR type Concealed Duct High-Static Pressure	25-48 type  76,96 type 					
T type Ceiling- Mounted Units				SPW-T125XH	SPW-T165XH	SPW-T185XH
FTR type Floor/Ceiling Mounted Units		SPW-FTR74EXH56B	SPW-FTR94EXH56B	SPW-FTR124EXH56B	SPW-FTR164EXH56B	SPW-FTR184EXH56B
K type Wall Mounted Units		SPW-K075XH	SPW-K095XH	SPW-K125XH		
KR type Wall-Mounted Units		SPW-KR74GXH56B	SPW-KR94GXH56B	SPW-KR124GXH56B	SPW-KR164GXH56B	SPW-KR184GXH56B
FMR type Concealed Floor Standing Units		SPW-FMR74GXH56B	SPW-FMR94GXH56B	SPW-FMR124GXH56B	SPW-FMR164GXH56B	SPW-FMR184GXH56B
FR type Floor Standing Units		SPW-FR74GXH56B	SPW-FR94GXH56B	SPW-FR124GXH56B	SPW-FR164GXH56B	SPW-FR184GXH56B
GU type Total Heat Exchanger with DX coil			SPW-GU055XH		SPW-GU075XH	SPW-GU105XH



	25	30	36	48	60	76	96	Wireless remote control		
	7.3 8.0	9.0 10.0	10.6 11.4	14.0 16.0	16.0 18.0	22.4 25.0	28.0 31.5			Function
	25,000 27,000	30,000 34,000	36,000 39,000	47,800 54,600	54,600 61,500	76,400 85,300	95,500 107,500	Type with built-in reception part	Type with separately installed reception part	
								•	•	
	SPW-X255XH Panel PNR-XD484GHAB		SPW-X365XH Panel PNR-XD484GHAB	SPW-X485XH Panel PNR-XD484GHAB	SPW-X605XH Panel PNR-XD484GHAB			•	•	
								•	•	
	SPW-SR254GXH56B Panel PNR-S253GHANB							•	•	
								•	•	
	SPW-LDR254GXH56B Panel PNR-LD254GHAB							•	•	
	SPW-U255XH		SPW-U365XH	SPW-U485XH	SPW-U605XH				•	
	SPW-U255SXHT	SPW-U305SXHT	SPW-U365SXHT	SPW-U485SXHT	SPW-U605SXHT				•	
									•	
									•	
	SPW-DR254GXH56B		SPW-DR364GXH56B	SPW-DR484GXH56B		SPW-DR764GXH56B	SPW-DR964GXH56B		•	
	SPW-T255XH		SPW-T365XH	SPW-T485XH					•	
									•	
									•	
	SPW-KR254GXH56B								•	
	SPW-FMR254GXH56B								•	
	SPW-FR254GXH56B								•	
									•	

SEMI-CONCEALED 4-WAY AIR DISCHARGE

XM type

600 x 600



■ Option

●Wired remote controller



●Wireless remote controller



●Simplified remote controller



●Panel

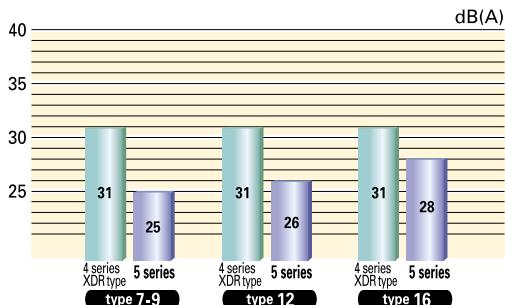


RCS-TM80BG

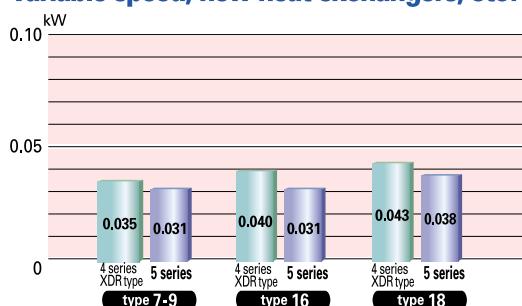
RCS-BH80BG.WL

RCS-KR1AGB

■ New turbo fans and heat exchanger fins with new shapes are adopted, and the operating sound could be dramatically reduced by max.



■ Wide reduction of the power consumption by adoption of newly developed DC fan motors with variable speed, new heat exchangers, etc!



■ Discharge opening and flap with new shape

The condensate and dirt appearing near the discharge ports of the conventional ceiling cassettes have been reduced.



Current

The discharged air hits the ceiling and causes dirt.

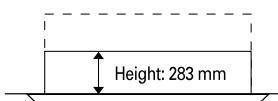
New ceiling cassette

Upward air flow is suppressed.

The flap can be removed easily for washing with water.

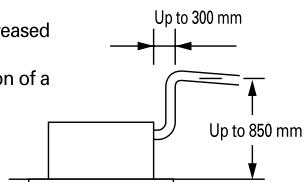


■ Lighter and thinner, easier installation!



■ A drain height of approx. 850 mm from the ceiling surface

The drain height could be increased by approx. 350 mm over the conventional value by adoption of a high-lift drain pump, and correspondence to long horizontal piping is possible.



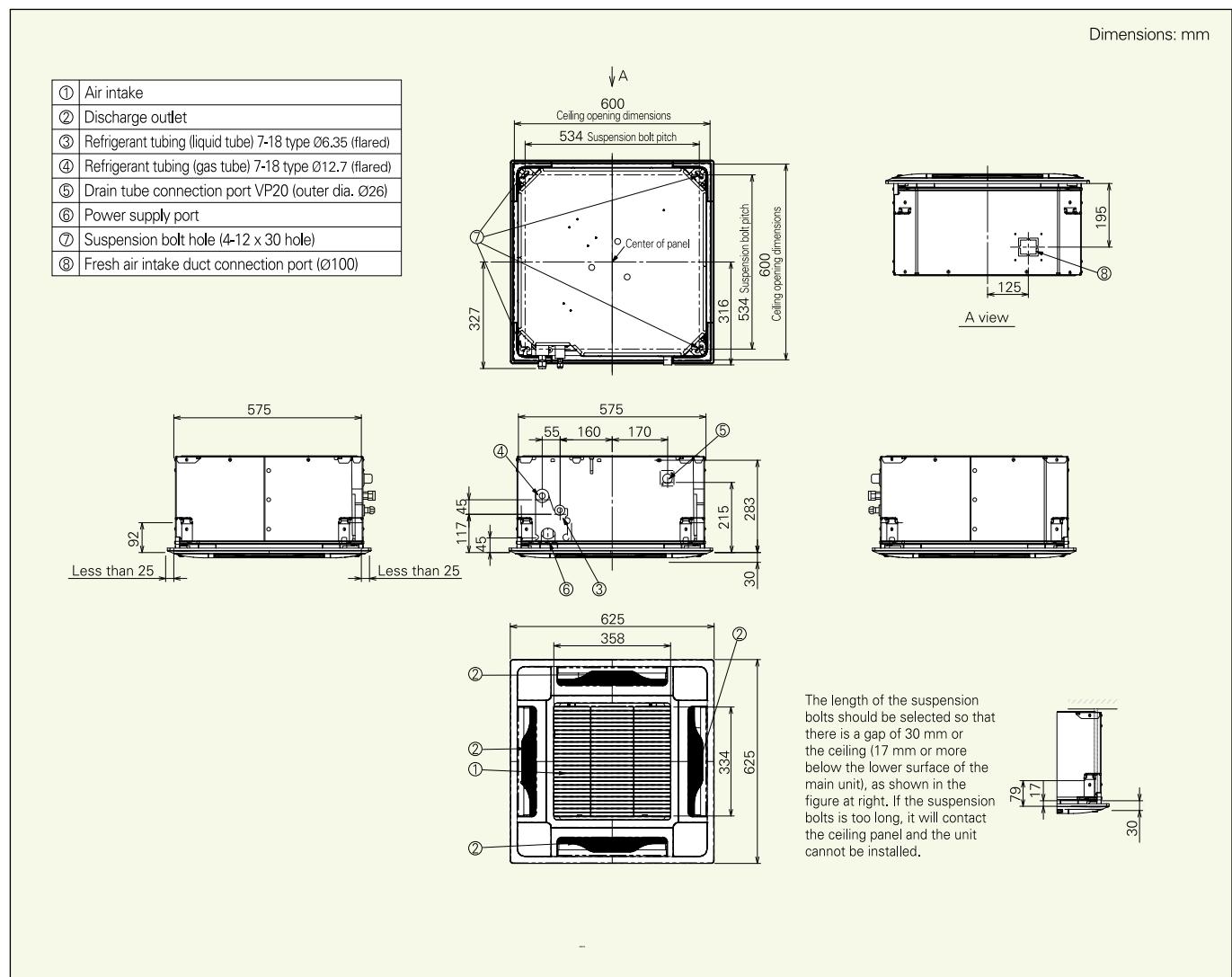
Indoor units specifications

Model name (SPW-)		XM075XH	XM095XH	XM125XH	XM165XH	XM185XH
Power source		220/230/240V, 1 phase-50, 60Hz				
Cooling capacity	kW	2.2	2.8	3.6	4.7	5.6
	BTU/h	7,500	9,600	12,000	15,000	19,000
Heating capacity	kW	2.5	3.2	4.0	5.0	6.3
	BTU/h	8,500	11,000	14,000	17,000	21,000
Moisture Removal (High)		Liters/h	0.2	0.6	1.1	1.5
Power input	Cooling	kW	0.024/0.025/0.025	0.026/0.027/0.027	0.030/0.031/0.031	0.037/0.038/0.038
	Heating	kW	0.014/0.015/0.015	0.017/0.017/0.018	0.020/0.021/0.021	0.029/0.029/0.029
Running amperes	Cooling	A	0.16/0.16/0.15	0.18/0.18/0.17	0.21/0.21/0.20	0.29/0.29/0.28
	Heating	A	0.13/0.13/0.12	0.15/0.15/0.14	0.18/0.18/0.17	0.26/0.26/0.25
Fan motor	Type		Centrifugal fan			
	Airflow rate (H/M/L)	m³/min	8/7/6	9/8/7	10.7/8.5/7.5	12.5/10.5/9
	Output	kW		0.020		
Power sound level (H/M/L)		dB(A)	46/43/41	49/46/42	53/48/45	58/54/50
Operating sound (H/M/L)		dB(A)	30/27/25	32/29/26	36/32/28	41/37/33
Dimensions	Height	mm	283			
	Width	mm	575 <625>			
	Depth	mm	575 <625>			
Piping connections	Liquid (Flare)	mm	6.35 (1/4)			
	Gas (Flare)	mm	12.7 (1/2)			
	Drain piping		VP-20			
Net weight		kg	16 + <2.4>			

Rated conditions

Cooling: Indoor air temperature 27°C DB/19°C WB, outdoor air temperature 35°C DB
Heating: Indoor air temperature 20°C DB, outdoor air temperature 7°C DB/6°C WB* The values in < > for external dimensions and net weight are the values for the optional ceiling panel.
Data subject to change without notice.

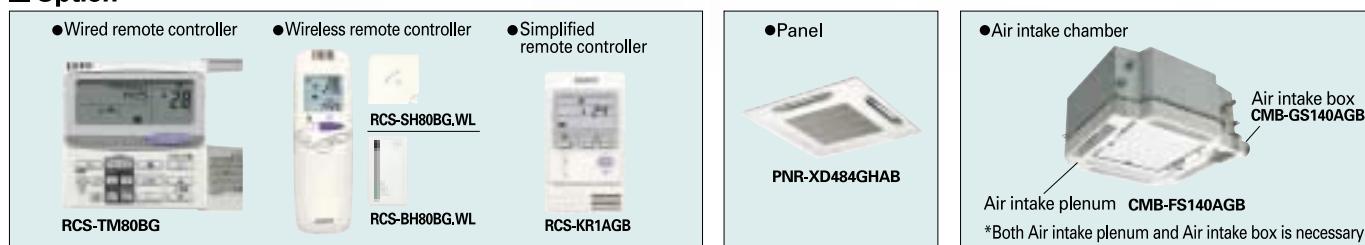
Dimensional data



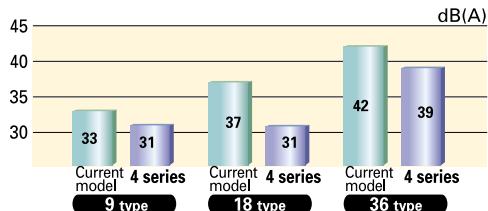
SEMI-CONCEALED CASSETTE 4-WAY AIR DISCHARGE



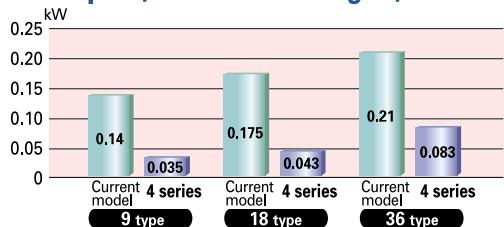
■ Option



■ Turbo fans and heat exchanger fins with new shapes are adopted, and the operating sound could be reduced by max. 6 dB (A)!

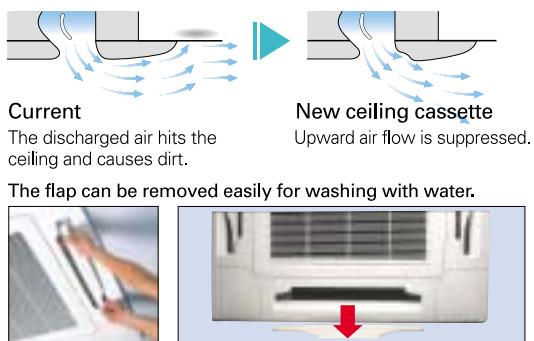


■ Wide reduction of the power consumption by adoption of newly developed DC fan motors with variable speed, new heat exchangers, etc!



■ Discharge opening and flap with new shape

The condensate and dirt appearing near the discharge ports of the conventional ceiling cassettes have been reduced.



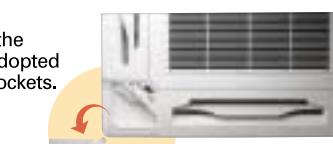
■ Lighter and thinner, easier installation!

- The top class lightest weight with 26 kg (for type 36~60), body height only 256 mm (7~25), so that installation is possible even in narrow ceilings.



■ Easy fine adjustment of the body suspension height!

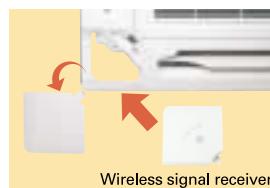
The four corners of the ceiling panel have adopted removable corner pockets.



Even after installation, fine adjustment of the suspension height is possible easily by removing the corner pockets.

■ Light, thin, and attractive design with easy installation

- The direction of the air intake grille can be changed.
- A wireless remote control light receiver can be installed by changing the corner cover. The installation can be done in a short time.



Wireless signal receiver

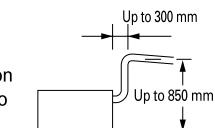
■ Easy servicing of the drain pan

A large-diameter (45 mm) drain pan inspection port has been provided, and drain pan and drain pump can be cleaned easily.



■ A drain height of approx. 850 mm from the ceiling surface

The drain height could be increased by approx. 350 mm over the conventional value by adoption of a high-lift drain pump, and correspondence to long horizontal piping is possible.



Indoor units specifications

Model name	(SPW-)	X075XH	X095XH	X125XH	X165XH	X185XH	X255XH	X365XH	X485XH	X605XH
Power source		220/230/240V, 1 phase-50, 60Hz								
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6	7.3	10.6	14.0	16.0
	BTU/h	7,500	9,600	12,000	15,000	19,000	25,000	36,000	47,800	54,600
Heating capacity	kW	2.5	3.2	4.2	5.0	6.3	8.0	11.4	16.0	18.0
	BTU/h	8,500	11,000	14,000	17,000	21,000	27,000	39,000	54,600	61,400
Power input	Cooling	kW	0.035/0.035/0.036	0.039/0.040/0.041	0.042/0.043/0.044	0.052/0.052/0.053	0.082/0.083/0.083	0.111/0.112/0.113	0.117/0.118/0.122	
	Heating	kW	0.027/0.027/0.028	0.030/0.031/0.032	0.032/0.033/0.034	0.042/0.043/0.043	0.074/0.076/0.077	0.103/0.103/0.104	0.108/0.108/0.111	
Running amperes	Cooling	A	0.27/0.27/0.26	0.31/0.30/0.30	0.34/0.33/0.32	0.43/0.42/0.41	0.67/0.63/0.60	0.91/0.88/0.84	0.97/0.92/0.92	
	Heating	A	0.23/0.23/0.22	0.26/0.25/0.25	0.29/0.28/0.28	0.38/0.36/0.35	0.64/0.63/0.62	0.89/0.88/0.86	0.96/0.95/0.93	
Fan motor	Type		Turbo fan *1							
	Airflow rate (H/M/L)	m³/min	15.5/14/13			16/14/13	20/16/14	28/23/21	33/25/22	34/27/23
	Output	kW	0.05			0.09				
Power sound level (H/M/L)		dB(A)	42/40/38			45/42/39	50/47/44	53/49/45	55/51/47	
Pressure sound level (H/M/L)		dB(A)	31/29/27			34/31/28	39/36/33	42/38/34	44/40/36	
Dimensions	Height	mm	256 + <35>			319 + <35>				
	Width	mm	840 <950>			840 <950>				
	Depth	mm	6.35			9.52				
Piping connections	Liquid (Flare)	mm	12.7			15.88				
	Gas (Flare)	mm	VP-25							
	Drain piping									
Net weight		kg	21 + <4.5>			22 + <4.5>	26 + <4.5>			

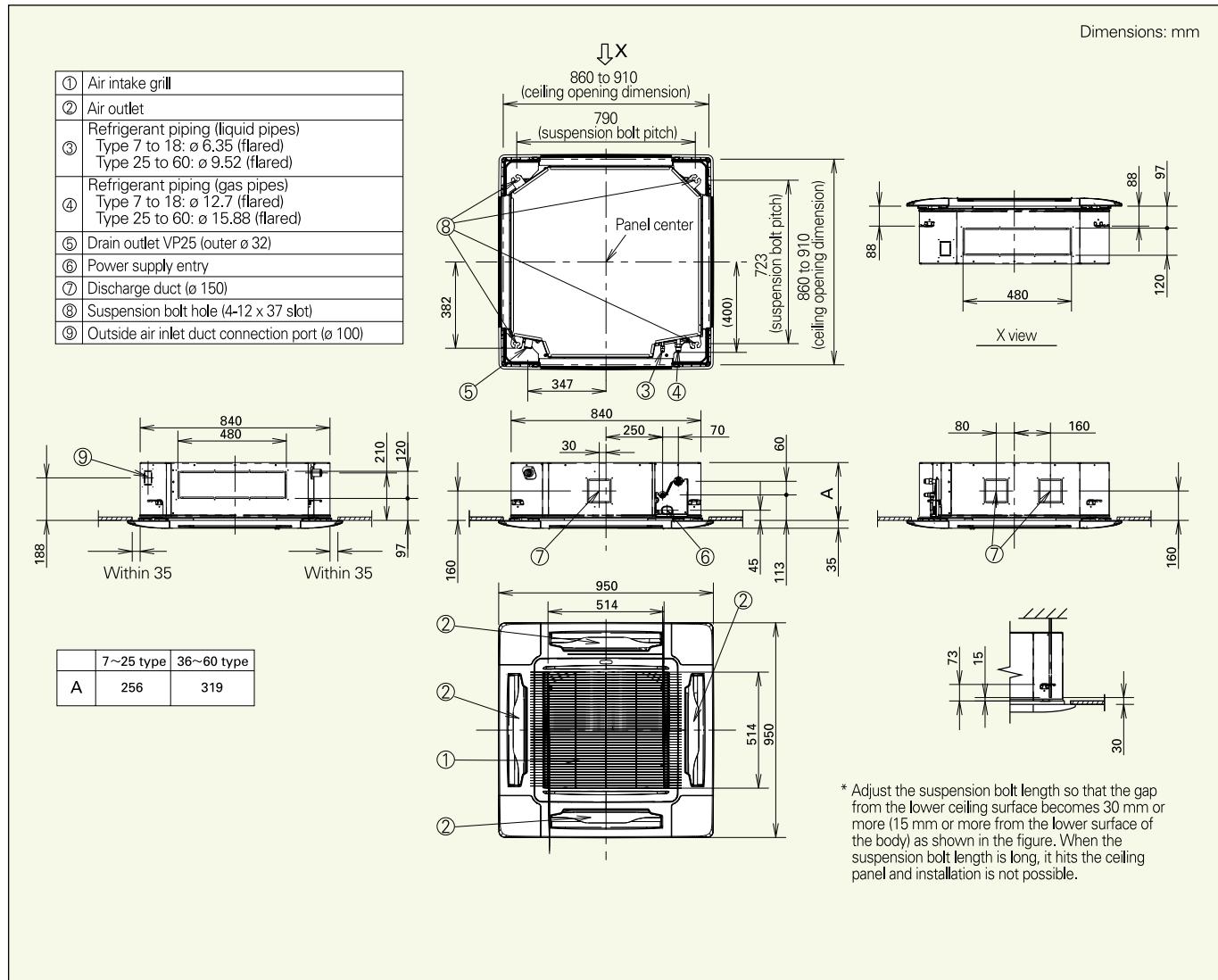
Rated conditions

Cooling: Indoor air temperature 27°C DB/19°C WB, outdoor air temperature 35°C DB
Heating: Indoor air temperature 20°C DB, outdoor air temperature 7°C DB/6°C WB

* The values in < > for external dimensions and net weight are the values for the optional ceiling panel.

Data subject to change without notice.

Dimensional data



* Adjust the suspension bolt length so that the gap from the lower ceiling surface becomes 30 mm or more (15 mm or more from the lower surface of the body) as shown in the figure. When the suspension bolt length is long, it hits the ceiling panel and installation is not possible.

SEMI-CONCEALED CASSETTE 4-WAY AIR DISCHARGE

XMR type



■ Option

● Wired remote controller



● Wireless remote controller



● Simplified remote controller



● Panel



- New dimensions 600 x 600 mm suitable for European under ceiling standards
- Three-speed centrifugal fan
- Anti-mould and anti-bacteria washable filters
- Low operating sound



Indoor units specifications

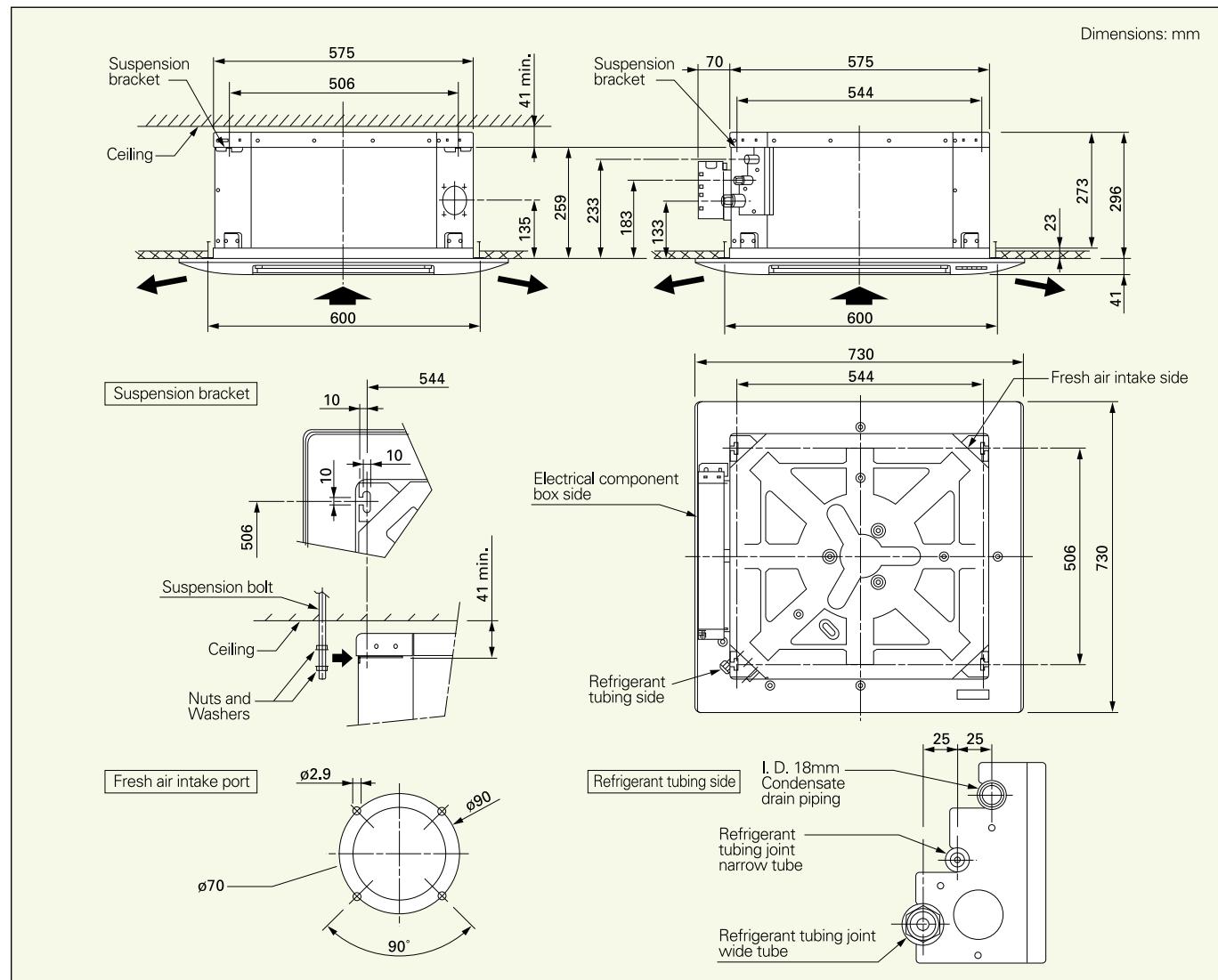
Model name	(SPW-)	XMR74EXH56B	XMR94EXH56B	XMR124EXH56B	XMR164EXH56B	XMR184EXH56B		
Power source		220/230/240V, 1 phase-50Hz						
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6		
	BTU/h	7,500	9,600	12,000	15,000	19,000		
Heating capacity	kW	2.5	3.2	4.2	5.0	6.3		
	BTU/h	8,500	11,000	14,000	17,000	21,000		
Power input	Cooling	kW		0.087/0.087/0.087				
	Heating	kW		0.087/0.087/0.087				
Running amperes	Cooling	A		0.41/0.41/0.41				
	Heating	A		0.41/0.41/0.41				
Fan motor	Type		Centrifugal fan					
	Airflow rate (H/M/L)	m³/min	11.7/10/8.3		12.5/10.5/8.8			
	Output	kW	0.06		0.06			
Power sound level (H/M/L)		dB(A)	54/51/48		55/51/48			
Pressure sound level (H/M/L)		dB(A)	43/40/37		44/40/37			
Dimensions	Height	mm	296					
	Width	mm	575 <730>					
	Depth	mm	575 <730>					
Piping connections	Liquid (Flare)	mm	6.35 (1/4)					
	Gas (Flare)	mm	12.7 (1/2)					
	Drain piping		VP-18					
Net weight		kg	16.5 + <2.5>		18 + <2.5>			

Rated conditions

Cooling: Indoor air temperature 27°C DB/19°C WB, outdoor air temperature 35°C DB
Heating: Indoor air temperature 20°C DB, outdoor air temperature 7°C DB/6°C WB

Data subject to change without notice.

Dimensional data



SEMI-CONCEALED CASSETTE 2-WAY AIR DISCHARGE

SR type



■ Option

•Wired remote controller



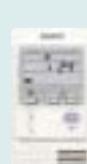
RCS-TM80BG

•Wireless remote controller



RCS-SS80BG.WL

•Simplified remote controller



RCS-BH80BG.WL

•Panel

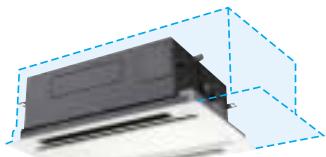
•Panel



PNR-S253GHANB (For 254 type)
PNR-S124GHB (For 74~184 type)

■ Realization of thin, compact, and light units!

Remarkable size and weight reductions have been realized by improvement of the design around the fan. In addition, the size for the type 18 has been reduced by one rank compared to current model.



In case of the type 18

Body volume

Approx. 30% reduction

Weight (body + panel)

Reduction from 50 kg to 30 kg (approx. 40% reduction)

Comparison with the current type

	7 type	25 type
Body volume	Approx. 14% reduction	Approx. 12% reduction
Weight (body + panel)	40 kg to 30 kg (approx. 25% reduction)	50 kg to 39 kg (approx. 22% reduction)

■ Silent design

Low operating sound in the top class of the industry have been realized by adoption of high-efficiency fans.

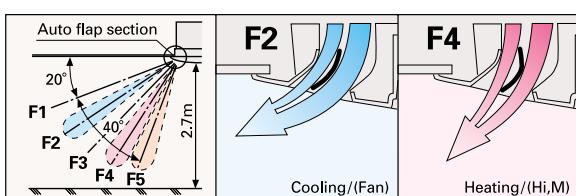
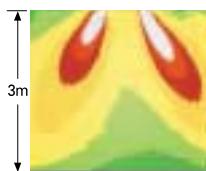
Operation noise

7 type	9 type	12 type	16·18 type	25 type
30·24	33·26	34·28	35·29	38·33

High/low notch, dB/A

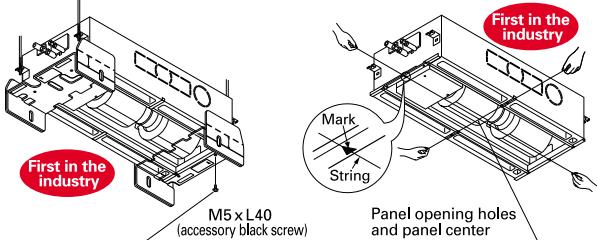
■ Realization of most suitable air flow for heating and cooling

Automatic setting to the most suitable flap angle for heating and cooling and an auto-swing mechanism for widening of the air flow are provided.

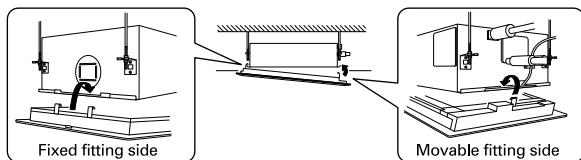


■ Excellent installation performance

•The packing pad can be used for the ceiling opening dimensions and for adjustment of the height of the indoor unit.

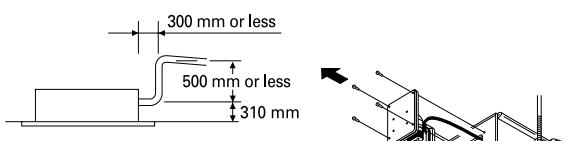


•Even large ceiling panels can be installed easily by the provisional fastening method.

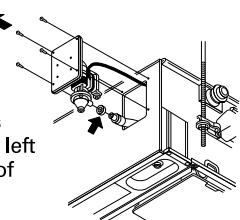


■ Adoption of a power up-drain pump

•Drain up is possible up to 500 mm from the drain port.



•Maintenance of the drain pump is possible from two sides, from the left (piping side) and from the inside of the unit.



■ Simple maintenance

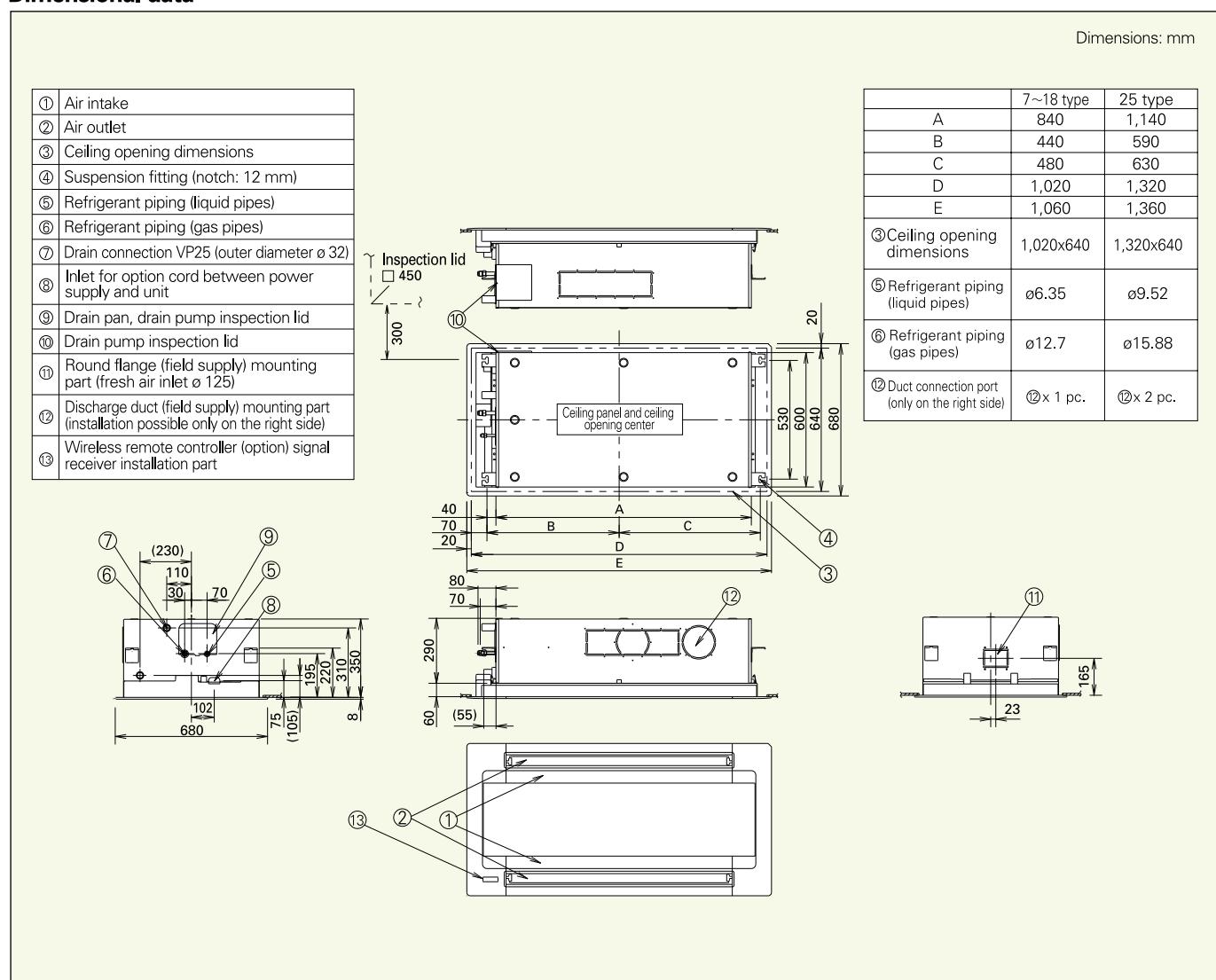
The drain pan is equipped with site wiring and can be removed. The fan case has a split construction, and the fan motor and the fan can be removed easily when the lower case is removed.

Indoor units specifications

Model name (SPW-)		SR74GXH56B	SR94GXH56B	SR124GXH56B	SR164GXH56B	SR184GXH56B	SR254GXH56B					
Power source		220/230/240V, 1 phase-50, 60Hz										
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6	7.3					
	BTU/h	7,500	9,600	12,000	15,000	19,000	25,000					
Heating capacity	kW	2.5	3.2	4.2	5.0	6.3	8.0					
	BTU/h	8,500	11,000	14,000	17,000	21,000	27,000					
Power input	Cooling	kW	0.086/0.090/0.095	0.086/0.092/0.097	0.088/0.093/0.099	0.091/0.097/0.103	0.135/0.145/0.154					
	Heating	kW	0.055/0.058/0.062	0.055/0.060/0.064	0.057/0.061/0.066	0.060/0.065/0.070	0.100/0.109/0.117					
Running amperes	Cooling	A	0.45/0.45/0.45	0.44/0.45/0.45	0.44/0.45/0.45	0.45/0.45/0.45	0.64/0.65/0.66					
	Heating	A	0.29/0.29/0.30	0.28/0.29/0.30	0.28/0.29/0.30	0.29/0.29/0.30	0.46/0.48/0.49					
Fan motor	Type	Sirocco fan *1					Sirocco fan *2					
	Airflow rate (H/M/L)	m³/min	8/7/6	9/8/7	9.6/8.6/7.6	11/9/8	19/16/14					
	Output	kW			0.03		0.05					
Power sound level (H/M/L)		dB(A)	40/38/35	44/40/37	45/42/39	46/44/40	49/46/44					
Pressure sound level (H/M/L)		dB(A)	30/27/24	33/29/26	34/31/28	35/33/29	38/35/33					
Dimensions	Height	mm	350 + <8>									
	Width	mm	840 <1060>									
	Depth	mm	600 <680>									
Piping connections	Liquid (Flare)	mm	6.35									
	Gas (Flare)	mm	12.7									
	Drain piping		VP-25									
Net weight		kg	23 + <7>									
Rated conditions												
Cooling: Indoor air temperature 27°C DB/19°C WB, outdoor air temperature 35°C DB												
Heating: Indoor air temperature 20°C DB, outdoor air temperature 7°C DB/6°C WB												

* The values in < > for external dimensions and net weight are the values for the optional ceiling panel.
Data subject to change without notice.

Dimensional data



SEMI-CONCEALED CASSETTE 1-WAY AIR DISCHARGE

ADR^{type}



■ Option

●Wired remote controller



●Wireless remote controller



●Simplified remote controller



●Panel



PNR-AD124GHB

■ Compact Size in the top class of the industry

The compact design keeps unit width and height to a minimum and delivers the industry's smallest panel width, giving you plenty of leeway in selecting an installation space.



■ Lightweight Construction in the top class of the industry

With a maximum unit weight of 8.5 kg, installation work is a snap.

Weight of Products (kg)

Type	Unit weight (including Panel)	
	B type	Current model
7 type	17+(2.5)	23+(3)
9 type	17+(2.5)	23+(3)
12 type	17+(2.5)	25+(3)

■ Quiet Operation in the top class of the industry

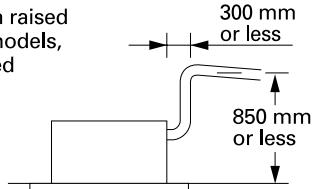
With operating noise reduced by up to 3 dB(A) over existing models, the unit creates a quiet, comfortable room environment.

Operation noise dB(A)

Type	(High/Low operation)	
	B type	Current model
7 type	33 / 29	34 / 30
9 type	33 / 29	34 / 30
12 type	36 / 31	39 / 33

■ Quiet Operation in the top class of the industry

The drain height has been raised by 63 mm over existing models, so operation can be started from the ceiling and pipe layout design has greater freedom.



■ Auto Flap and Auto Swing Functions

The Auto Flap function lets you set the air direction by remote control, and the Auto Swing function delivers a uniform amount of air to every part of the room. What is more, the flap can be closed when the unit is not operating to keep dust from entering the room.

■ The hanging height of the unit can be easily adjusted



Adjustable covers are equipped on both sides of the ceiling panel so that the hanging height of the unit can be adjusted even after the panel has been installed.

Adjustable covers on both sides of panel



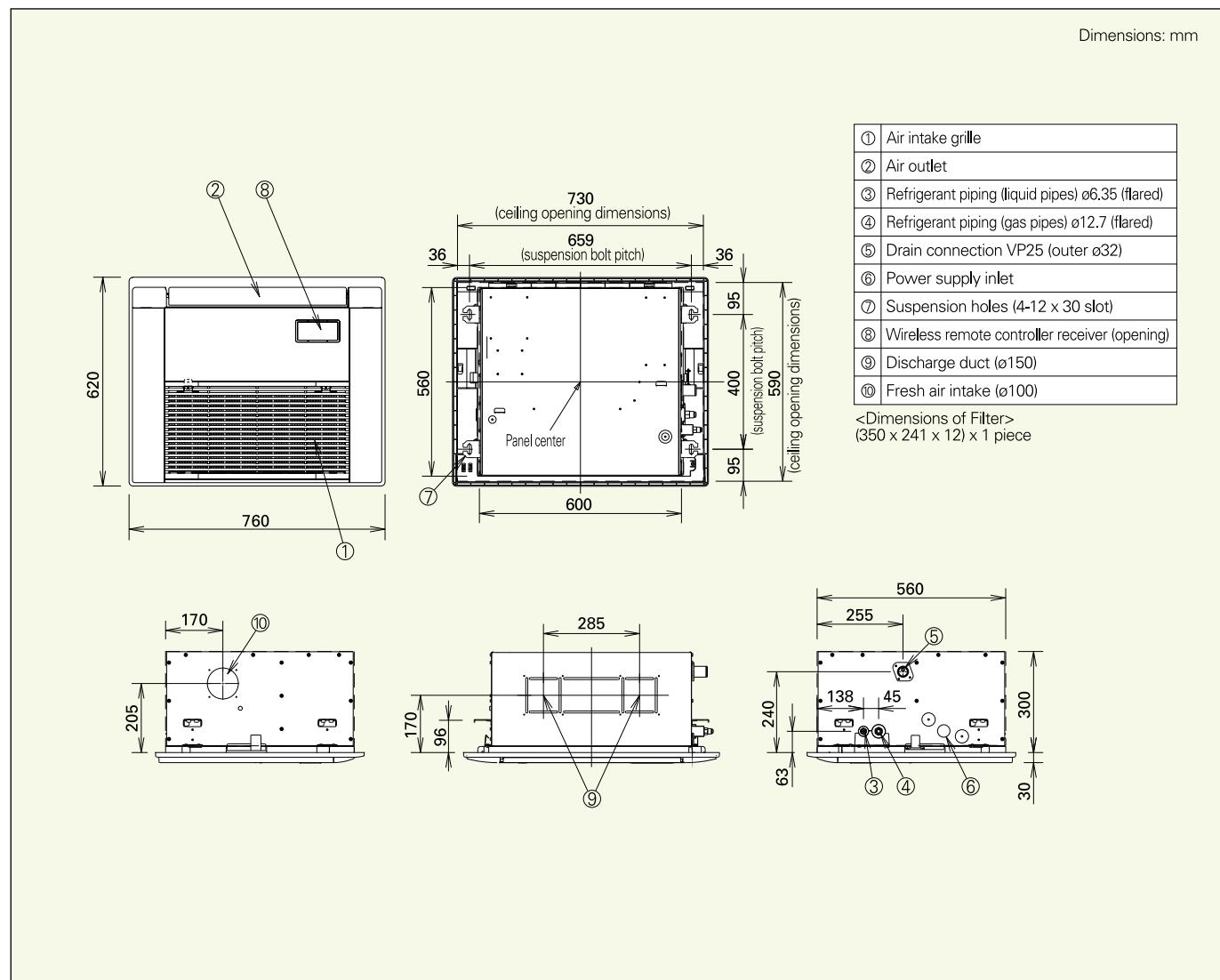
Indoor units specifications

Model name		(SPW-)	ADR74GXH56B	ADR94GXH56B	ADR124GXH56B		
Power source			220/230/240V, 1 phase-50, 60Hz				
Cooling capacity	kW	2.2	2.8	3.6			
	BTU/h	7,500	9,600	12,000			
Heating capacity	kW	2.5	3.2	4.2			
	BTU/h	8,500	11,000	14,000			
Power input	Cooling	kW	0.060/0.061/0.063	0.064/0.064/0.067			
	Heating	kW	0.037/0.037/0.038	0.039/0.039/0.04			
Running amperes	Cooling	A	0.24/0.23/0.22	0.25/0.24/0.24			
	Heating	A	0.16/0.16/0.16	0.17/0.17/0.17			
Fan motor	Type		Sirocco fan *1				
	Airflow rate (H/M/L)	m³/min	8/7/6		9/8/7		
	Output	kW	0.02				
Power sound level (H/M/L)		dB(A)	44/42/40	47/45/42			
Pressure sound level (H/M/L)		dB(A)	33/31/29	36/34/31			
Dimensions	Height	mm	300 + <30>				
	Width	mm	600 <760>				
	Depth	mm	560 <620>				
Piping connections	Liquid (Flare)	mm	6.35				
	Gas (Flare)	mm	12.7				
	Drain piping		VP-25				
Net weight		kg	17 + <2.5>				

Rated conditions
Cooling: Indoor air temperature 27°C DB/19°C WB, outdoor air temperature 35°C DB
Heating: Indoor air temperature 20°C DB, outdoor air temperature 7°C DB/6°C WB

* The values in < > for external dimensions and net weight are the values for the optional ceiling panel.
Data subject to change without notice.

Dimensional data



SEMI-CONCEALED SLIM CASSETTE

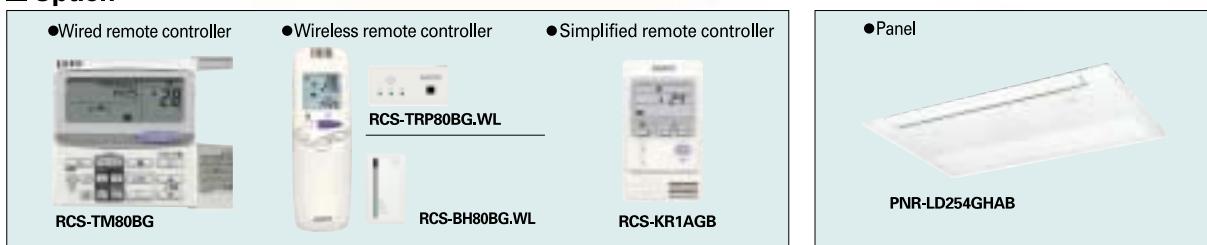
LDR^{type}



Our slim model, which is only 200mm in depth, can air-condition spaces with ceiling heights up to 4.2m.



■ Option



■ Top industrial capacity*1 to handle ceiling heights up to 4.2m

● Attained height/ceiling height based on fan motor speed setting (m)

Indoor unit type	9-type ~ 18-type		25-type	
	Attained height	Ceiling height	Attained height	Ceiling height
Factory setting	3.2	3.5	3.5	3.8
High-ceiling setting	3.9	4.2	3.9	4.2
Ceiling-mounted installation	2.4	2.7	2.4	2.7

*1 With one-direction type for high ceilings (current as of November 2004)

*2 For setting method, refer to the installation instructions that came with the ceiling panel.

■ Lightweight, Compact and Quiet

With a full model change, all models are now the top industrial lightweight units*. And with all models having coordinated dimensions between the unit and the panel, multi-unit installations have a smart, attractive appearance. (* Current as of November 2004)



■ Product (unit + panel) weight (kg)

	Current model	New model	Reduction
9/12 type	26+(8)kg	21+(5.5)kg	22%
16/18 type	27+(8)kg	21+(5.5)kg	24%
25 type	30+(9)kg	22+(5.5)kg	29%

■ Operating noise [dB(A)] (High/Low operation)

	Current model	New model
9/12 type	43/33	36/33
16 type	44/35	36/34
18 type	44/35	38/34
25 type	46/36	45/36

■ With 3 types of air-blow systems, the units can be used in various ways.

(1) One-direction down-blow system

Powerful one-direction "down-blow" system reaches the floor even from high ceilings (up to 4.2m).

(2) Two-direction ceiling-mounted system

"Down-blow" and "front-blow" systems are combined in a ceiling-mounted unit to blow air over a wide area.

(3) One-direction ceiling-mounted system

This powerful ceiling-mounted "front-blow" system efficiently air-conditions the space in front of the unit.

■ Smudge-free operation

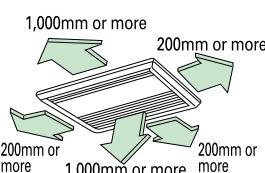
Setting the flap in the smudge-free position suppresses soiling around the air outlet that is seen in conventional ceiling cassettes, so the ceiling stays clean at all times.

■ The hanging height of the unit can be easily adjusted.

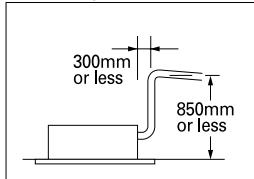
The up-down position of the unit can be easily adjusted by simply removing the panel side covers, without having to remove the ceiling panel.



■ Separation distance from nearest obstacle



■ Drain height



Indoor units specifications

Model name (SPW-)		LDR94GXH56B	LDR124GXH56B	LDR164GXH56B	LDR184GXH56B	LDR254GXH56B
Power source		220/230/240V, 1 phase-50, 60Hz				
Cooling capacity	kW	2.8	3.6	4.5	5.6	7.3
	BTU/h	9,600	12,000	15,000	19,000	25,000
Heating capacity	kW	3.2	4.2	5.0	6.3	8.0
	BTU/h	11,000	14,000	17,000	21,000	27,000
Power input	Cooling	kW	0.050/0.051/0.052		0.058/0.060/0.061	0.086/0.087/0.089
	Heating	kW	0.039/0.040/0.042		0.046/0.048/0.049	0.075/0.076/0.077
Running amperes	Cooling	A	0.40/0.39/0.39		0.46/0.46/0.46	0.71/0.70/0.69
	Heating	A	0.36/0.35/0.35		0.42/0.41/0.41	0.66/0.65/0.63
Fan motor	Type		Sirocco fan *2			
	Airflow rate (H/M/L)	m³/min	12/10/9		12/11/10	13/11.5/10
	Output	kW	0.05			
Power sound level (H/M/L)		dB(A)	47/45/44		47/46/45	49/47/45
Pressure sound level (H/M/L)		dB(A)	36/34/33		36/35/34	38/36/34
Dimensions	Height	mm	200 + <20>			
	Width	mm	1,000 <1,230>			
	Depth	mm	710 <800>			
Piping connections	Liquid (Flare)	mm	6.35			9.52
	Gas (Flare)	mm	12.7			15.88
	Drain piping		VP-25			
Net weight		kg	21 + <5.5>			22 + <5.5>

Rated conditions

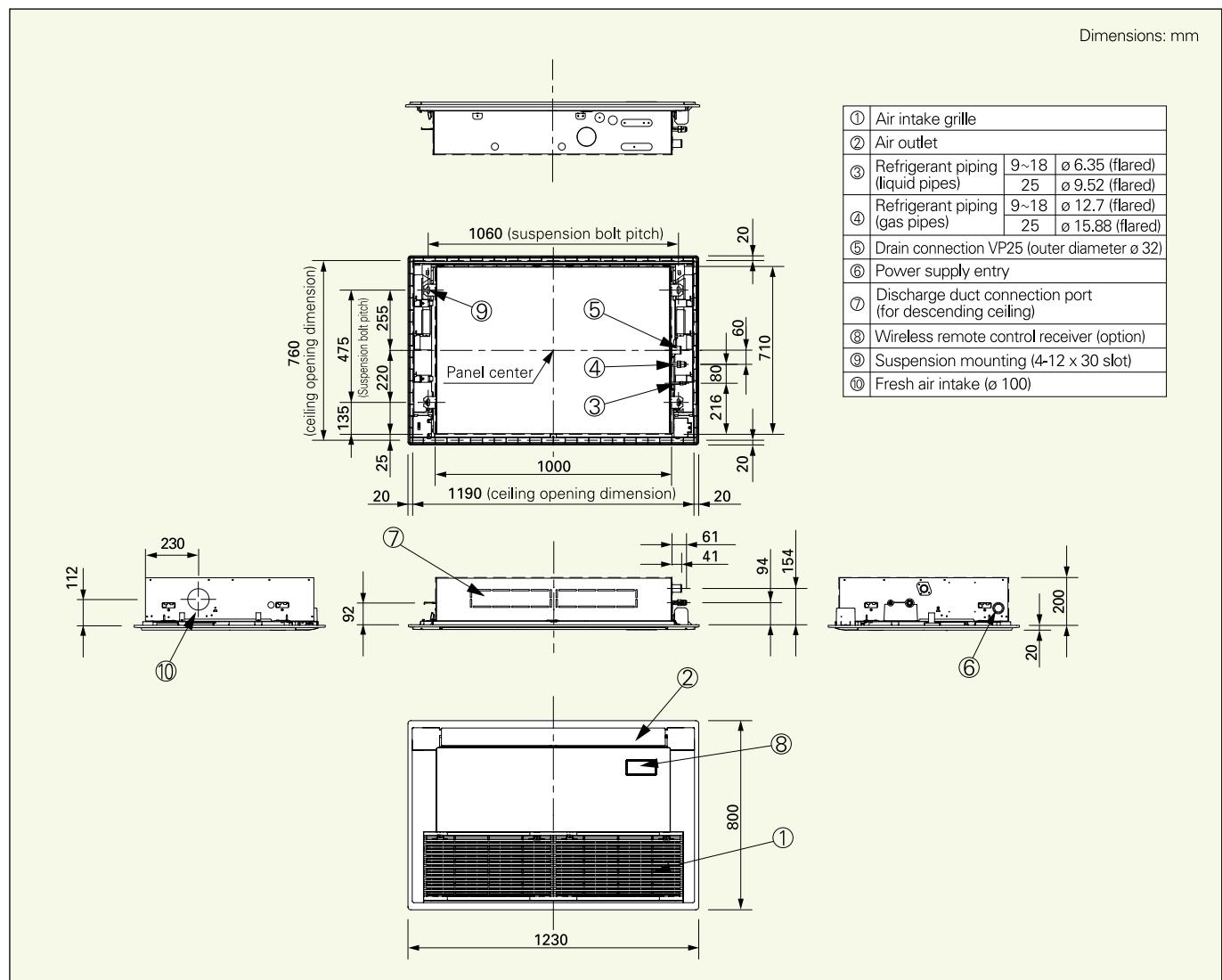
Rated conditions
Cooling: Indoor air temperature 27°C DB/19°C WB, outdoor air temperature 35°C DB
Heating: Indoor air temperature 20°C DB, outdoor air temperature 7°C DB/6°C WB

* The values in < > for external dimensions and net weight are the values for the optional ceiling panel.

* The values in () for air flow rate and operating sound are for use of the accessory cable.

Data subject to change without notice.

Dimensional data



CONCEALED DUCT

U type



WIDE OPERATION DRY

■ Option



■ Realized comfortable space by dispersed arrangement of discharge ports.



■ The static pressure outside the unit can be increased!

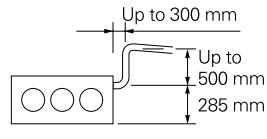
By using the booster cable, the static pressure outside the unit can be increased.

(Pa)

type	7·9·12	16·18	25	36	48·60
Standard	49	40	50	79	78
With booster cable use	69	62	92	122	113

■ Drain pump with increased power!

By adoption of a high-lift drain pump, the drain piping rise height could be increased to 785 mm from the lower surface of the body.

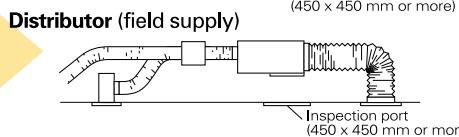
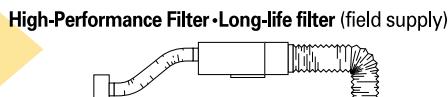
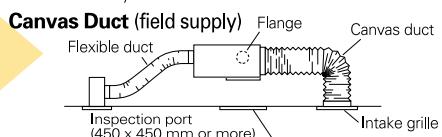


■ Easy maintenance by external installation of the electric equipment box!



System example

An inspection port (450 mm x 450 mm or more) is required at the lower side of the indoor unit body.



■ Unified body height of approx. 310 mm for all models

Even models with different capacities can be installed smoothly in the ceiling.

Indoor units specifications

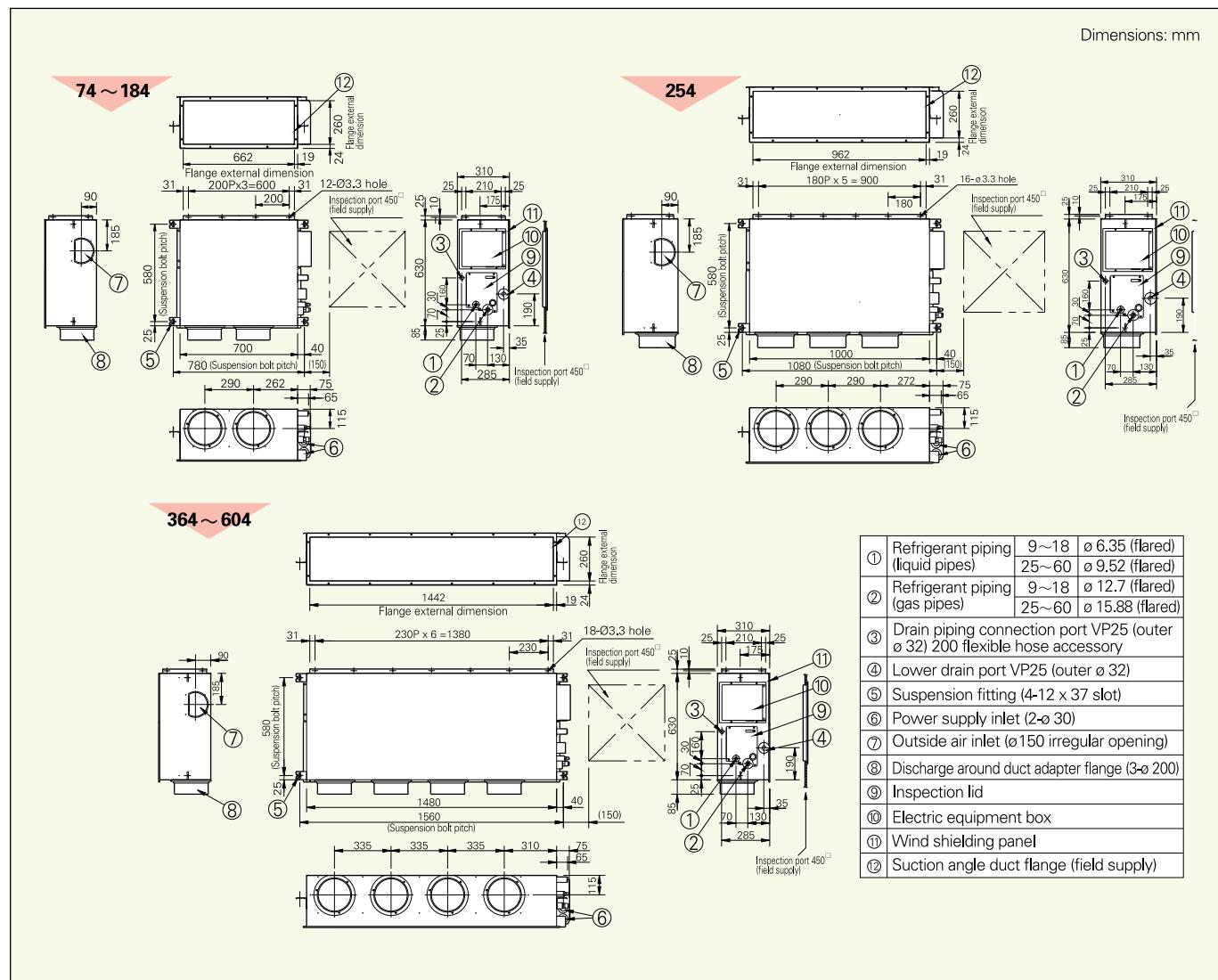
Model name	(SPW-)	U075XH	U095XH	U125XH	U165XH	U185XH	U255XH	U365XH	U485XH	U605XH					
Power source		220/230/240V, 1 phase-50, 60Hz													
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6	7.3	10.6	14.0	16.0					
	BTU/h	7,500	9,600	12,000	15,000	19,000	25,000	36,000	47,800	54,600					
Heating capacity	kW	2.5	3.2	4.2	5.0	6.3	8.0	11.4	16.0	18.0					
	BTU/h	8,500	11,000	14,000	17,000	21,000	27,000	39,000	54,600	61,400					
Power input	Cooling kW	0.094/0.100/0.106			0.096/0.102/0.109	0.180/0.195/0.210	0.312/0.327/0.342		0.308/0.325/0.341						
	Heating kW	0.082/0.088/0.094			0.084/0.090/0.097	0.168/0.183/0.198	0.300/0.315/0.330		0.296/0.313/0.329						
Running amperes	Cooling A	0.45/0.46/0.47			0.44/0.45/0.46	0.83/0.86/0.89	1.44/1.45/1.46		1.42/1.43/1.44						
	Heating A	0.40/0.41/0.42			0.39/0.40/0.41	0.78/0.81/0.84	1.39/1.40/1.41		1.36/1.37/1.38						
Type		Sirocco fan *1				Sirocco fan *2	Sirocco fan *3								
Fan motor	Airflow rate (H/M/L)	m³/min	10/8.5/7		12/10.5/9		18/15/13	30/26/21	33/30/25						
	Output	kW	0.05				0.07	0.14							
	External static pressure	Pa	49(69)		40(62)		50(92)	79(122)	78(113)						
Power sound level (H/M/L)		dB(A)	40/37/33		41/39/36		45/41/38	49/44/42	51/48/44						
Pressure sound level (H/M/L)		dB(A)	(32)/29/26/22		(33)/30/28/25		(38)/34/30/27	(42)/38/33/31	(44)/40/37/33						
Dimensions	Height	mm	310												
	Width	mm	700				1000	1480							
	Depth	mm	630												
Piping connections	Liquid (Flare)	mm	6.35				9.52								
	Gas (Flare)	mm	12.7				15.88								
	Drain piping		VP-25												
Net weight	kg	24	25	32	32	47									

Rated conditions

Cooling: Indoor air temperature 27°C DB/19°C WB, outdoor air temperature 35°C DB
 Heating: Indoor air temperature 20°C DB, outdoor air temperature 7°C DB/6°C WB

* The values in () for the external static pressure and operating sound are for use of booster cable.
 Data subject to change without notice.

Dimensional data



CONCEALED-RECTANGLE DUCT TYPE

UR^{type}



■ Option



■ The static pressure outside the unit can be increased!

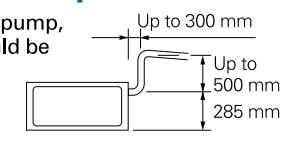
By using the booster cable, the static pressure outside the unit can be increased.

(Pa)

type	7·9·12	16·18	25·30	36	48·60
Standard	49	40	50	79	78
With booster cable use	69	62	92	122	113

■ Drain pump with increased power!

By adoption of a high-lift drain pump, the drain piping rise height could be increased to 785 mm from the lower surface of the body.



■ Easy maintenance by external installation of the electric equipment box!



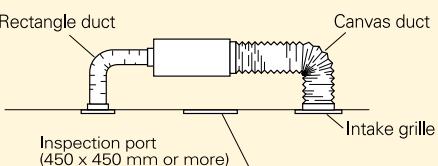
■ Anti-mould washable filters included

■ Unified body height of approx. 310 mm for all models

Even models with different capacities can be installed smoothly in the ceiling.

System example

An inspection port (450 mm x 450 mm or more) is required at the lower side of the indoor unit body.



Indoor units specifications

Model name (SPW-)	U075SXHT	U095SXHT	U125SXHT	U165SXHT	U185SXHT	U255SXHT	U305SXHT	U365SXHT	U485SXHT	U605SXHT	
Power source		220/230/240V, 1 phase-50Hz									
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6	7.3	9.0	10.6	14.0	16.0
	BTU/h	7,500	9,600	12,000	15,000	19,000	25,000	30,000	36,000	47,800	54,600
Heating capacity	kW	2.5	3.2	4.2	5.0	6.3	8.0	10.0	11.4	16.0	18.0
	BTU/h	8,500	11,000	14,000	17,000	21,000	27,000	34,000	39,000	54,600	61,400
Power input	Cooling	0.094/0.100/0.106	0.109/0.102/0.096	0.096/0.102/0.109	0.180/0.195/0.210	0.187/0.203/0.219	0.312/0.327/0.342	0.308/0.325/0.341			
	Heating	0.082/0.088/0.094	0.097/0.090/0.084	0.084/0.090/0.097	0.168/0.183/0.198	0.176/0.191/0.207	0.300/0.315/0.330	0.296/0.313/0.329			
Running amperes	Cooling	A	0.45/0.46/0.47	0.46/0.45/0.44	0.44/0.45/0.46	0.83/0.86/0.89	0.88/0.91/0.94	1.44/1.45/1.46	1.42/1.43/1.44		
	Heating	A	0.40/0.41/0.42	0.41/0.40/0.39	0.39/0.40/0.41	0.78/0.81/0.84	0.84/0.87/0.90	1.39/1.40/1.41	1.36/1.37/1.38		
Fan motor	Type	Sirocco fan *1			Sirocco fan *2			Sirocco fan *3			
	Airflow rate (H/M/L)	10/8.5/7			12/10.5/9			18/15/13	20/17/14	30/26/21	33/30/25
	Output	0.05			0.07			0.14			
	External static pressure	Pa	49(69)		40(62)			50(92)	79(122)	78(113)	
Power sound level (H/M/L)		40/37/33		41/39/36	45/41/38	45/41/38	49/44/42	51/48/44			
Pressure sound level (H/M/L)		(33)/29/26/22		(33)/30/28/25	(38)/34/30/27	(38)/34/30/27	(42)/38/33/31	(44)/40/37/33			
Dimensions	Height	mm			310						
	Width	mm			700			1000			
	Depth	mm			630			1480			
Piping connections	Liquid (Flare)	mm			6.35 (1/4)			9.52 (3/8)			
	Gas (Flare)	mm			12.7 (1/2)			15.88 (5/8)			
	Drain piping				VP-25						
Net weight	kg	24		25		32		47			

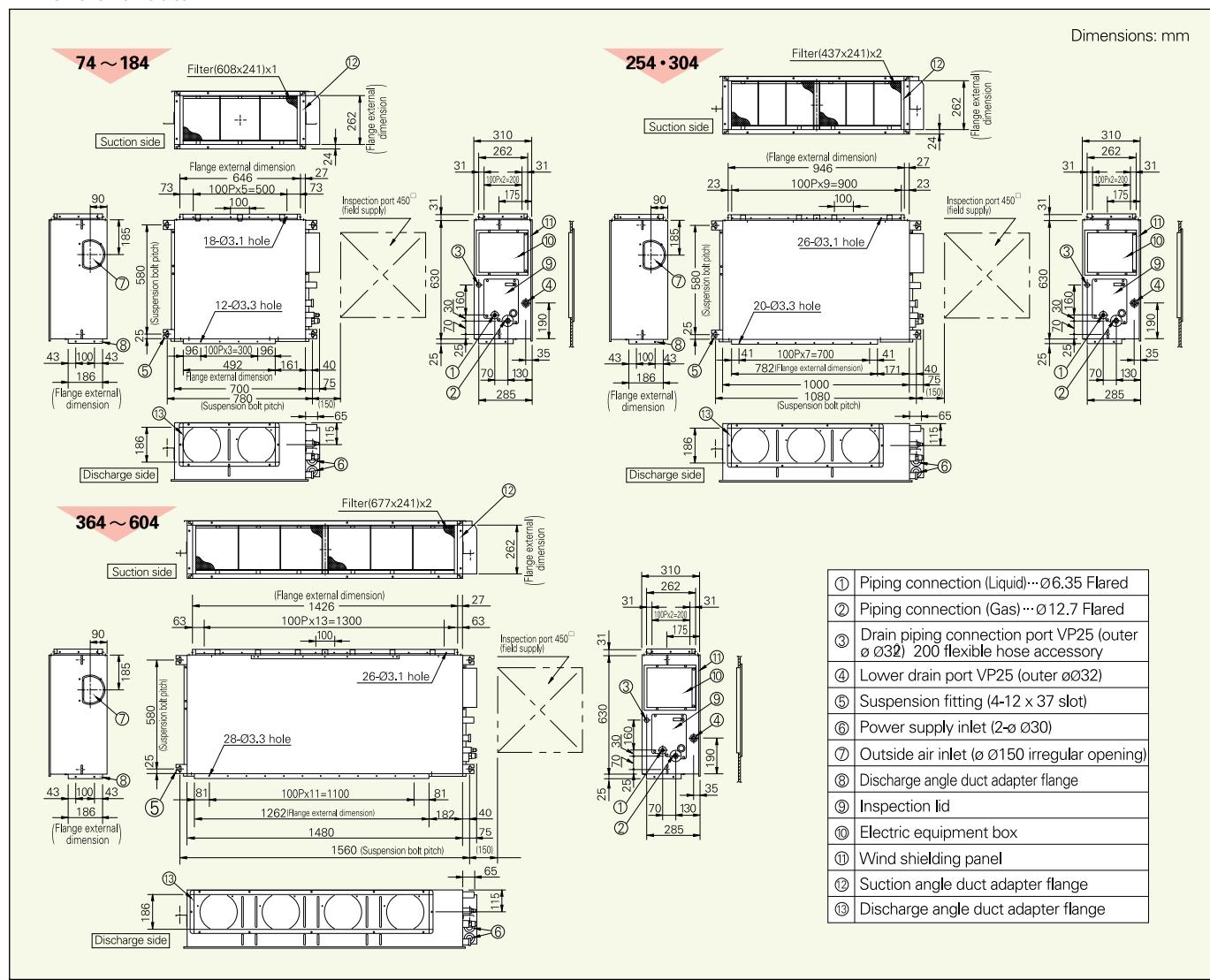
Rated conditions

Cooling: Indoor air temperature 27 °C DB/19°C WB, outdoor air temperature 35 °C DB
Heating: Indoor air temperature 20 °C DB, outdoor air temperature 7 °C DB/6°C WB

* The values in () for the external static pressure and operating sound are for use of booster cable.

Data subject to change without notice.

Dimensional data



US type



■ Option

- Timer remote controller



RCS-TM80BG

- Wireless remote controller



RCS-BH80BG.WL

- Simplified remote controller



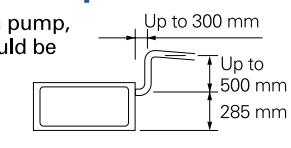
RCS-KR1AGB

■ Ultra-slim profile: 200 mm for all models



■ Drain pump with increased power!

By adoption of a high-lift drain pump, the drain piping rise height could be increased to 785 mm from the lower surface of the body.



■ Ideal for hotel application with very thin false-ceiling

■ Extremely silent: 25 dB-A at low speed (Class 7)

■ Anti-mould washable filters included

■ Easy maintenance and service by external PCB box

■ Three-speed centrifugal fan by wired or wireless remote controller



Indoor units specifications

Model name (SPW-)		US075XH	US095XH	US125XH	US165XH	US185XH
Power source		220/230/240V, 1 phase-50, 60Hz				
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6
	BTU/h	7,500	9,600	12,000	15,000	19,000
Heating capacity	kW	2.5	3.2	4.2	5.0	6.3
	BTU/h	8,500	11,000	14,000	17,000	21,000
Power input	Cooling kW	0.036 / 0.036 / 0.036	0.040 / 0.040 / 0.040	0.042 / 0.042 / 0.042	0.049 / 0.049 / 0.049	0.064 / 0.064 / 0.064
	Heating kW	0.026 / 0.026 / 0.026	0.030 / 0.030 / 0.030	0.032 / 0.032 / 0.032	0.039 / 0.039 / 0.039	0.054 / 0.054 / 0.054
Running amperes	Cooling A	0.26 / 0.26 / 0.26	0.30 / 0.30 / 0.30	0.31 / 0.31 / 0.31	0.37 / 0.37 / 0.37	0.48 / 0.48 / 0.48
	Heating A	0.23 / 0.23 / 0.23	0.27 / 0.27 / 0.27	0.28 / 0.28 / 0.28	0.34 / 0.34 / 0.34	0.45 / 0.45 / 0.45
Fan motor	Type	Sirocco fan				
	Airflow rate (H/M/L) m³/min	8 / 7 / 6	8.5 / 7.5 / 6.5	9 / 8 / 7	10.5 / 9.5 / 8	12.5 / 11.5 / 10
	Output kW	0.05				
	External static pressure Pa	10 - 30	15 - 30	15 - 40		
Power sound level (H/M/L)		dB(A)	43 / 42 / 40	45 / 44 / 42	47 / 45 / 43	49 / 47 / 45
Pressure sound level (H/M/L)		dB(A)	28 / 27 / 25	30 / 29 / 27	32 / 30 / 28	34 / 32 / 30
Dimensions	Height mm	200				
	Width mm	750				
	Depth mm	640				
Piping connections	Liquid (Flare) mm	6.35 (1/4)				
	Gas (Flare) mm	12.7 (1/2)				
	Drain piping	VP-20				
Net weight		kg	19			

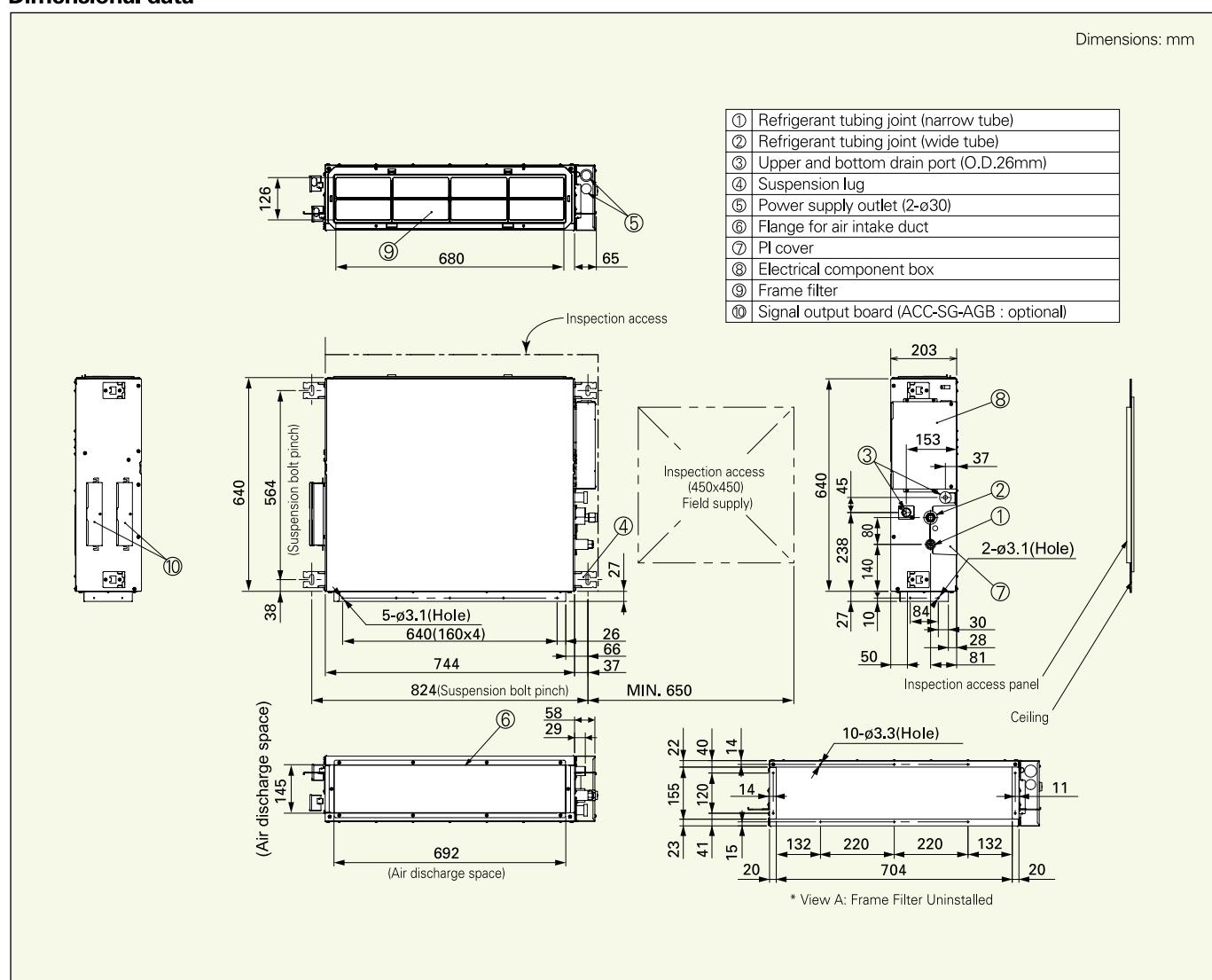
Rated conditions

Cooling: Indoor air temperature 27°C DB/19°C WB, outdoor air temperature 35°C DB

Heating: Indoor air temperature 20°C DB, outdoor air temperature 7°C DB/6°C WB

Data subject to change without notice.

Dimensional data



FLOOR/CEILING SLIM CONCEALED DUCT

FUR^{type}



■ Option

● Timer remote controller



RCS-TM80BG

● Wireless remote controller



RCS-BH80AG,WLB

● Simplified remote controller



RCS-KR1AGB

■ Ultra-slim profile: 190 mm for all models



■ Suitable for horizontal and vertical installation

■ Ideal for hotel application with very thin false-ceiling

■ Extremely silent: 26 dB-A at low speed (Class 7, 9, 12)

■ Anti-mould washable filters included

■ Easy maintenance and service by air suction port

■ Three-speed centrifugal fan by wired or wireless remote controller



Indoor units specifications

Model name		(SPW-)	FUR74EXH56B	FUR94EXH56B	FUR124EXH56B	FUR164EXH56B	FUR184EXH56B	FUR224EXH56B		
Power source			220/230/240V, 1 phase-50 Hz							
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6	6.4			
	BTU/h	7,500	9,600	12,000	15,000	19,000	22,000			
Heating capacity	kW	2.5	3.2	4.2	5.0	6.3	7.0			
	BTU/h	8,500	11,000	14,000	17,000	21,000	24,000			
Power input	Cooling kW	0.037/0.037/0.037			0.065/0.065/0.065		0.088/0.088/0.088			
	Heating kW	0.037/0.037/0.037			0.065/0.065/0.065		0.088/0.088/0.088			
Running amperes	Cooling A	0.17/0.17/0.17			0.29/0.29/0.29		0.41/0.41/0.41			
	Heating A	0.17/0.17/0.17			0.29/0.29/0.29		0.41/0.41/0.41			
Fan motor	Type	Sirocco fan								
	Airflow rate (H/M/L)	m ³ /min	7.8/6.3/5.6			10.3/9/7.5		11.3/10/8.7		
	Output	kW	0.04			0.07		0.09		
	External static pressure	Pa	7.5			10				
Power sound level (H/M/L)		dB(A)	48/41/37			56/52/44		60/56/51		
Pressure sound level (H/M/L)		dB(A)	37/30/26			45/41/33		49/45/40		
Dimensions	Height	mm	190							
	Width	mm	890							
	Depth	mm	614							
Piping connections	Liquid (Flare)	mm	6.35 (1/4)							
	Gas (Flare)	mm	12.7 (1/2)							
	Drain piping		VP-26							
Net weight		kg	25							

Rated conditions

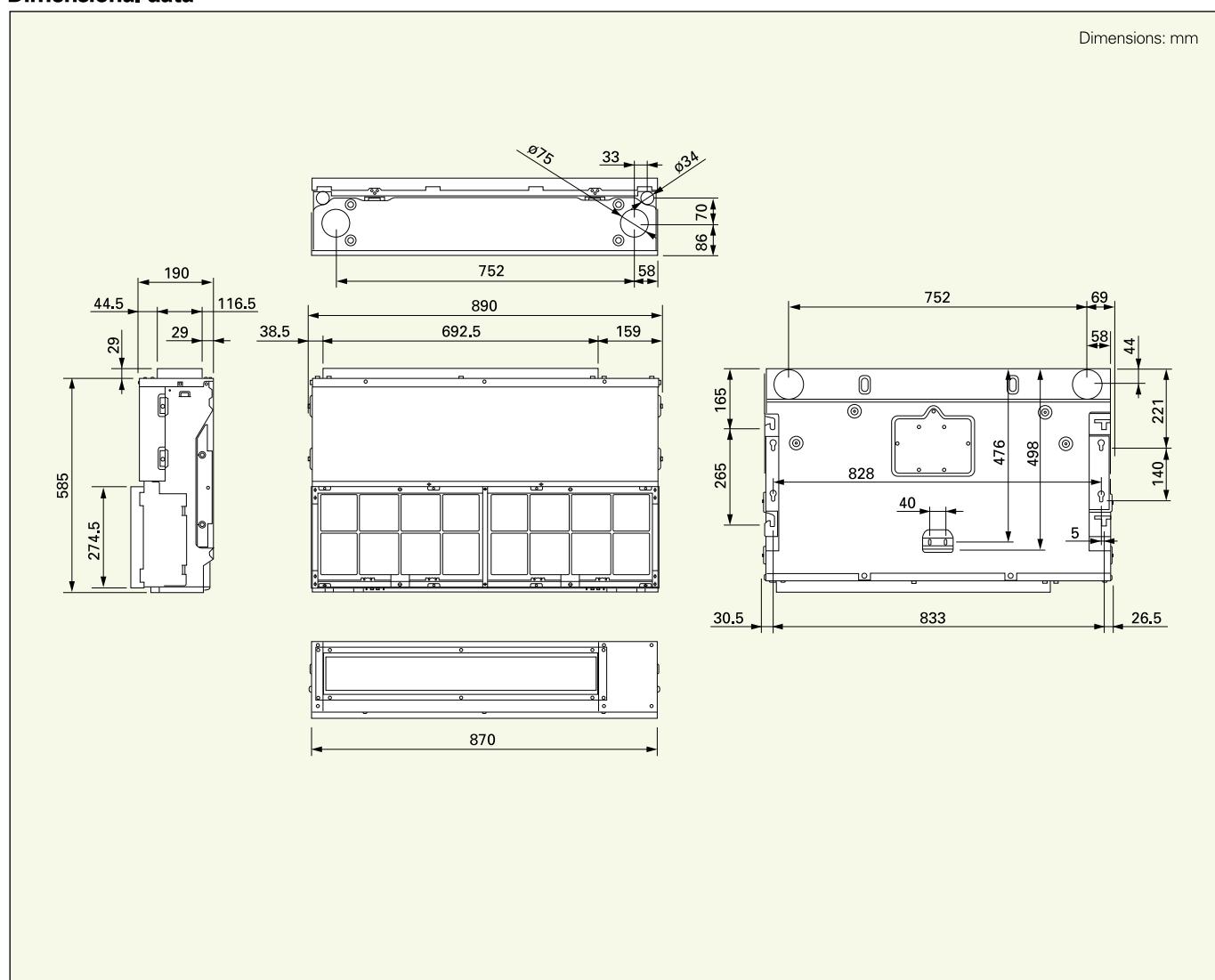
Cooling: Indoor air temperature 27°C DB/19°C WB, outdoor air temperature 35°C DB

Heating: Indoor air temperature 20°C DB, outdoor air temperature 7°C DB/6°C WB

* The values in () for the external static pressure and operating sound are for use of booster cable.

Data subject to change without notice.

Dimensional data



CONCEALED DUCT

UMR^{type}



■ Option

● Timer remote controller



RCS-TM80BG

● Wireless remote controller



RCS-BH80AG.WLB

● Simplified remote controller



RCS-KR1AGB

■ Integrated pump for condensate discharge

■ Fresh air intake

■ Reduced dimensions

■ Anti-mould and anti-bacteria washable filters

■ Three-speed centrifugal fan by remote control and feature to increase speed/pressure, using the booster cable



Indoor units specifications

Model name	(SPW-)	UMR74EXH56B	UMR94EXH56B	UMR124EXH56B	UMR164EXH56B	UMR184EXH56B	UMR224EXH56B	
Power source		220/230/240V, 1 phase-50 Hz						
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6	6.4	
	BTU/h	7,500	9,600	12,000	15,000	19,000	22,000	
Heating capacity	kW	2.5	3.2	4.2	5.0	6.3	7.0	
	BTU/h	8,500	11,000	14,000	17,000	21,000	24,000	
Power input	Cooling	kW	0.11/0.11/0.11		0.138/0.138/0.138	0.136/0.136/0.136		
	Heating	kW	0.11/0.11/0.11		0.138/0.138/0.138	0.136/0.136/0.136		
Running amperes	Cooling	A	0.45/0.45/0.45		0.60/0.60/0.60	0.57/0.57/0.57		
	Heating	A	0.45/0.45/0.45		0.60/0.60/0.60	0.57/0.57/0.57		
Fan motor	Type			Sirocco fan				
	Airflow rate (H/M/L)	m³/min	10/8.5/7.3		14.6/10/6.7	16.7/11.7/10		
	Output	kW	0.11		0.14			
	External static pressure	Pa		49				
Power sound level (H/M/L)	dB(A)	54/52/49		54/47/42	57/49/46			
Pressure sound level (H/M/L)	dB(A)	43/41/38		43/36/31	46/38/35			
Dimensions	Height	mm		266				
	Width	mm	852		1,058			
	Depth	mm		572				
Piping connections	Liquid (Flare)	mm		6.35 (1/4)				
	Gas (Flare)	mm		12.7 (1/2)				
	Drain piping			VP-18				
Net weight	kg	30			35			

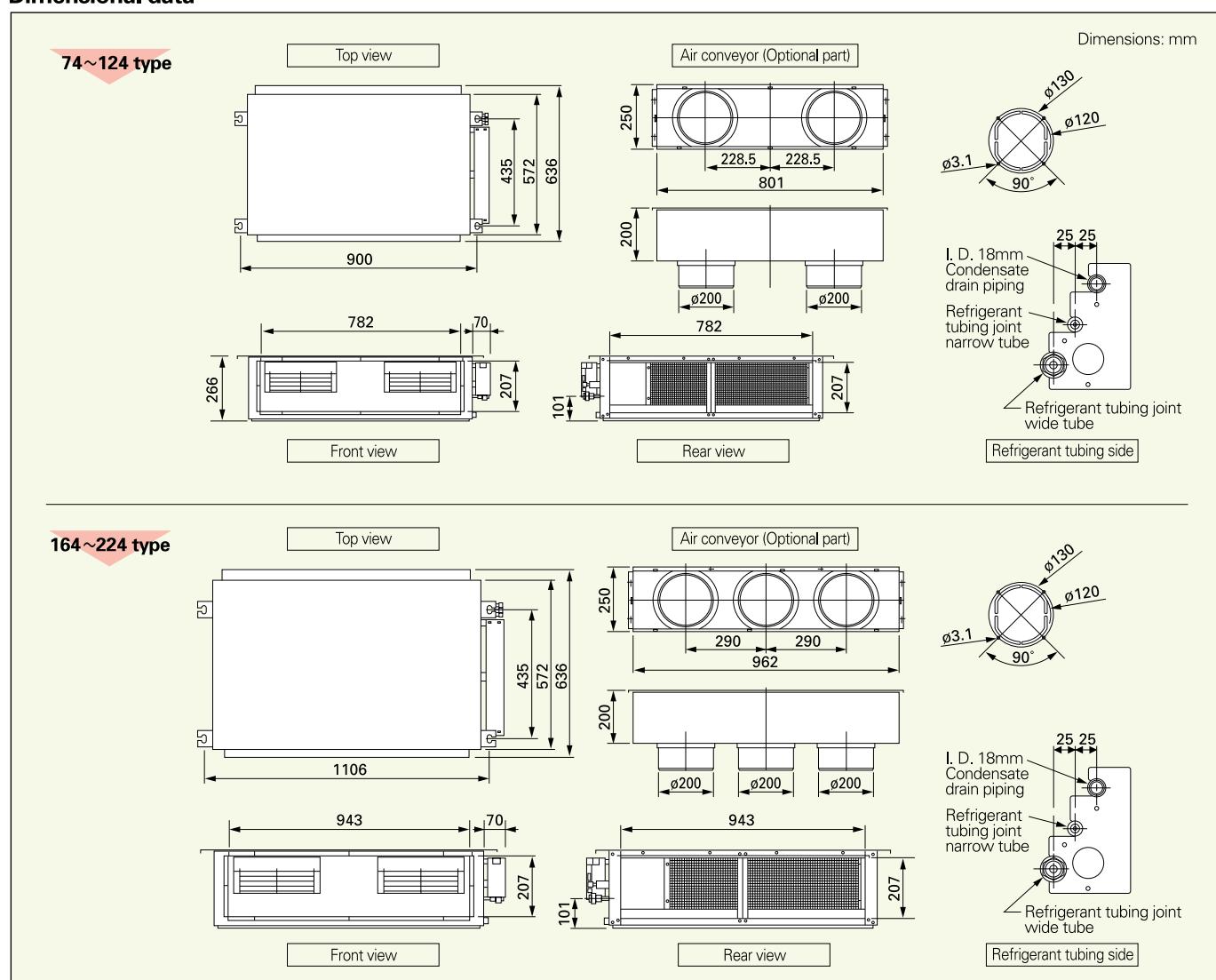
Rated conditions

Cooling: Indoor air temperature 27°C DB/19°C WB, outdoor air temperature 35°C DB
Heating: Indoor air temperature 20°C DB, outdoor air temperature 7°C DB/6°C WB

* The values in () for the external static pressure and operating sound are for use of booster cable.

Data subject to change without notice.

Dimensional data



CONCEALED-DUCT HIGH-STATIC PRESSURE

DR type



25~48 type



76, 96 type



■ Option

● Wired remote controller



RCS-TM80BG

● Wireless remote controller



RCS-BH80BG.WL

● Simplified remote controller



RCS-KR1AGB

● Rap valve kit

The types 76 and 96 require two rap valve kits for each unit.



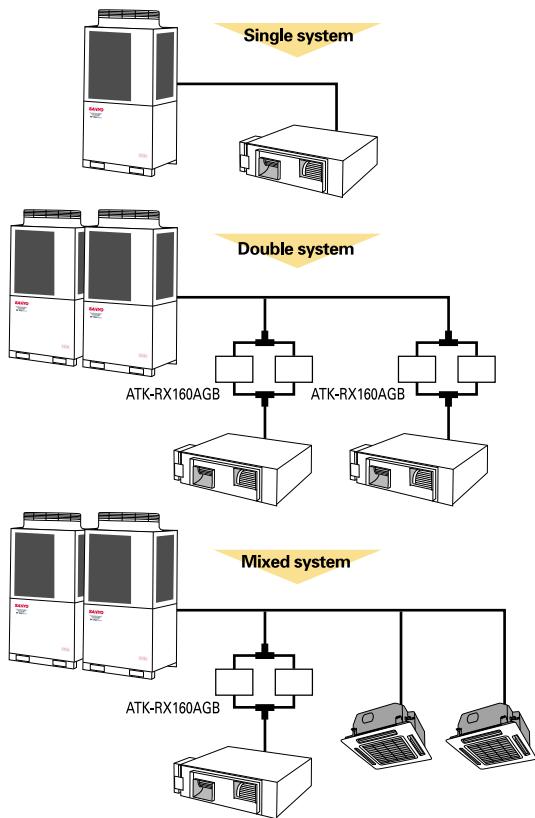
ATK-RX160AGB

■ High static pressure, low-noise design

Embedded ceiling type with high static pressure and excellent low operating sound features. As the discharge port also can be set freely, it is suitable for the office space.

■ Rap valve kit

Except for use as a single system, two rap valve kits are required for each unit for the type 76 and the type 96.



■ Distribution joint kit (APR-RP160AG/APR-P160 for type 76)
(APR-RP680AG/APR-P680 for type 96)



● "Short duct" use of the type DR

When the type DR is used with a short duct (duct length of 4 to 5 m, external static pressure around 49 Pa (5 mm Aq)), the air volume and the operating sound maybe too large and an air volume adjustment damper or similar should be installed. (The external static pressure for this model is 147 Pa (15 mm Aq) or more.) In such a case, we recommend that you check use of the type UR.

Indoor units specifications

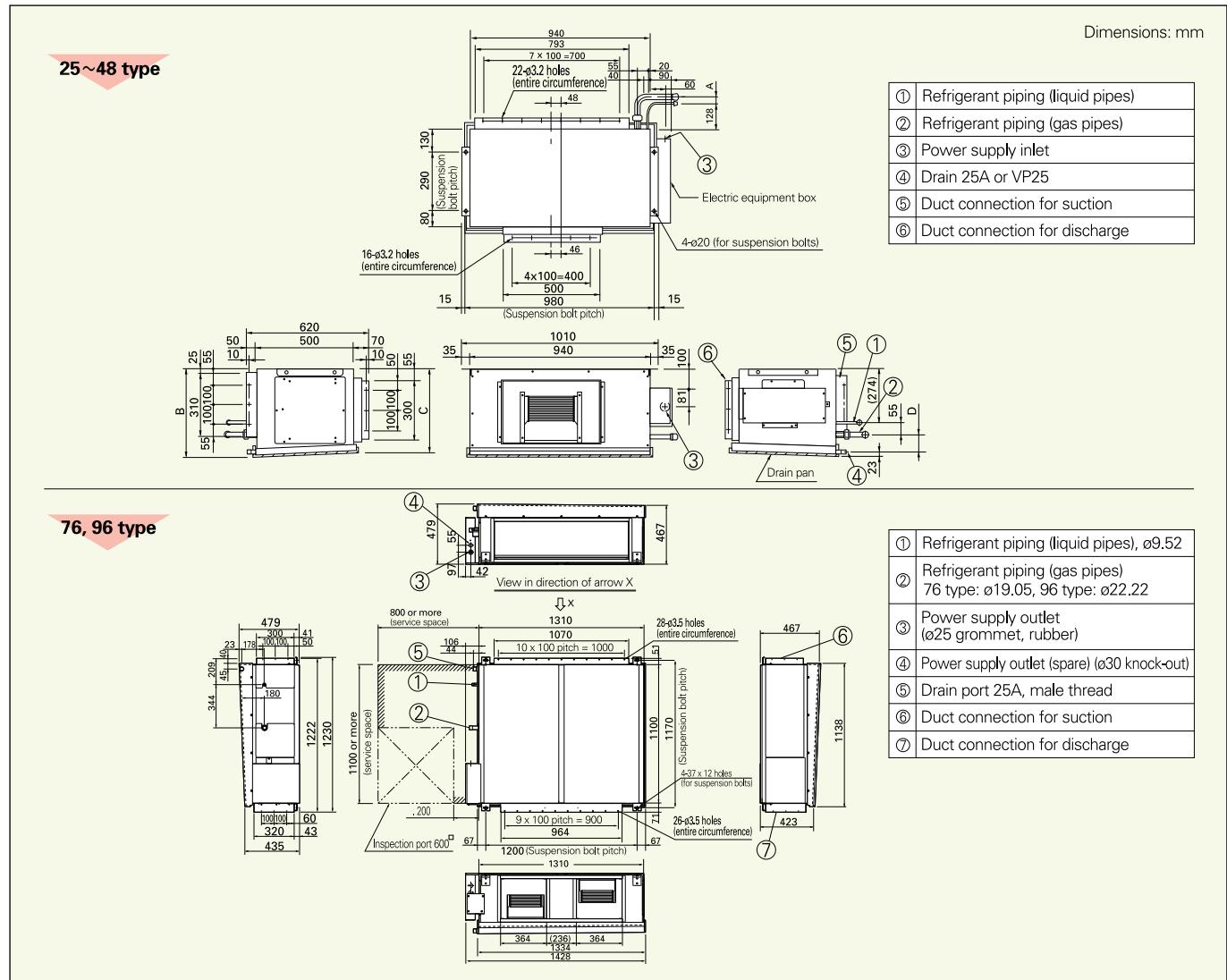
Model name (SPW-)		DR254GXH56B	DR364GXH56B	DR484GXH56B	DR764GXH56B	DR964GXH56B
Power source		220/230/240V, 1 phase-50, 60Hz				
Cooling capacity	kW	7.3	10.6	14.0	22.4	28.0
	BTU/h	25,000	36,000	47,800	76,400	95,500
Heating capacity	kW	8.0	11.4	16.0	25.0	31.5
	BTU/h	27,000	39,000	54,600	85,300	107,500
Power input	Cooling	kW	0.480/0.505/0.530	0.520/0.545/0.570	0.600/0.660/0.710	0.870/0.900/0.930
	Heating	kW	0.480/0.505/0.530	0.520/0.545/0.570	0.600/0.660/0.710	0.870/0.900/0.930
Running amperes	Cooling	A	2.29/2.30/2.31	2.46/2.46/2.47	2.80/2.90/3.00	4.05/4.06/4.07
	Heating	A	2.29/2.30/2.31	2.46/2.46/2.47	2.80/2.90/3.00	4.05/4.06/4.07
Fan motor	Type	Sirocco fan *1			Sirocco fan *2	
	Airflow rate (H/M/L)	m³/min	23/22/21	30/28/25	36/35/33	56/53.1/49.6
	Output	kW	0.2		0.35	0.2*2
	External static pressure	Pa	186	176	167	176
Power sound level (H/M/L)		dB(A)	55/54/53	56/55/53	58/57/55	59/58/57
Pressure sound level (H/M/L)		dB(A)	44/43/42	45/44/42	47/46/44	48/47/46
Dimensions	Height	mm	420		450	467
	Width	mm	1065			1428
	Depth	mm	620			1230
Piping connections	Liquid (Flare)	mm	9.52			
	Gas (Flare)	mm	15.88			19.05
	Drain piping		VP-25			
Net weight		kg	47	50	54	110
						120

Rated conditions

Data subject to change without notice.

Cooling: Indoor air temperature 27°C DB/19°C WB, outdoor air temperature 35°C DB
Heating: Indoor air temperature 20°C DB, outdoor air temperature 7°C DB/6°C WB

Dimensional data



CEILING MOUNTED UNITS

T type



■ Option

•Wired remote controller



•Wireless remote controller

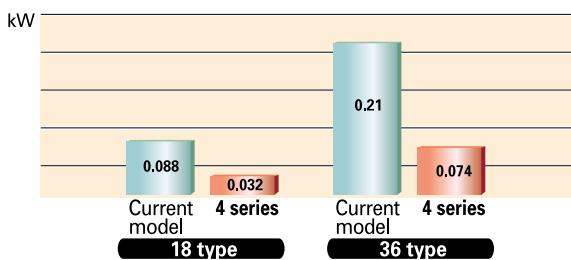


•Simplified remote controller



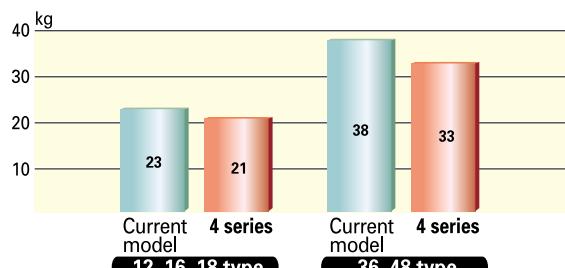
■ Newly developed DC fan motor with variable speed

Drastic reduction of the power input by adoption of a Sirocco fan with a new shape, a heat exchanger, etc.



■ Weight reduction for all models!

All models have light weight in the top class of the industry, and the installation work also have been improved. Body height and depth have been unified for all models, and functional design permits clean and good-looking installation also for several units.

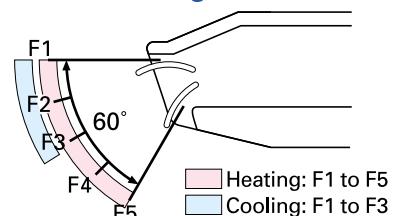


■ New design with lower operating sound

The operating sound has been reduced by max. 2 dB (A) by use of heat exchanger fins and Sirocco fans with a new shape and reduced wind path resistance.

Model	25 type	48 type
Operation noise (H/L)	38/33dB(A)	43/37dB(A)

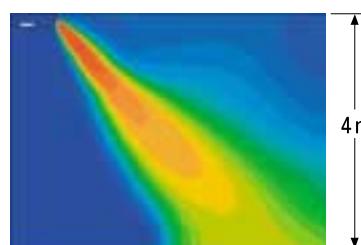
■ Realization of the most suitable air flow for heating and for cooling



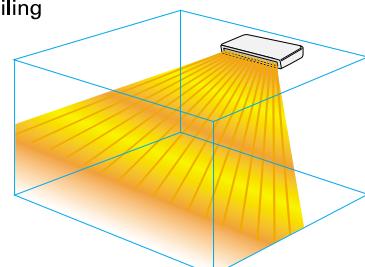
Automatic setting of the blowing angle according to heating or cooling. In case of swing operation, the flap moves automatically and smoothly in the range from F1 to F5, independent of the mode.

■ Further comfort improvement

The wide air discharge opening widens the air flow to the left and the right, so that a comfortable temperature is obtained in the entire room. The unpleasant feeling caused when the air flow directly hits the human body is prevented by the "Draft prevention position", which changes the swing width, so that the degree of comfort is increased.



Correspondence to ceiling heights up to 4 m



Indoor units specifications

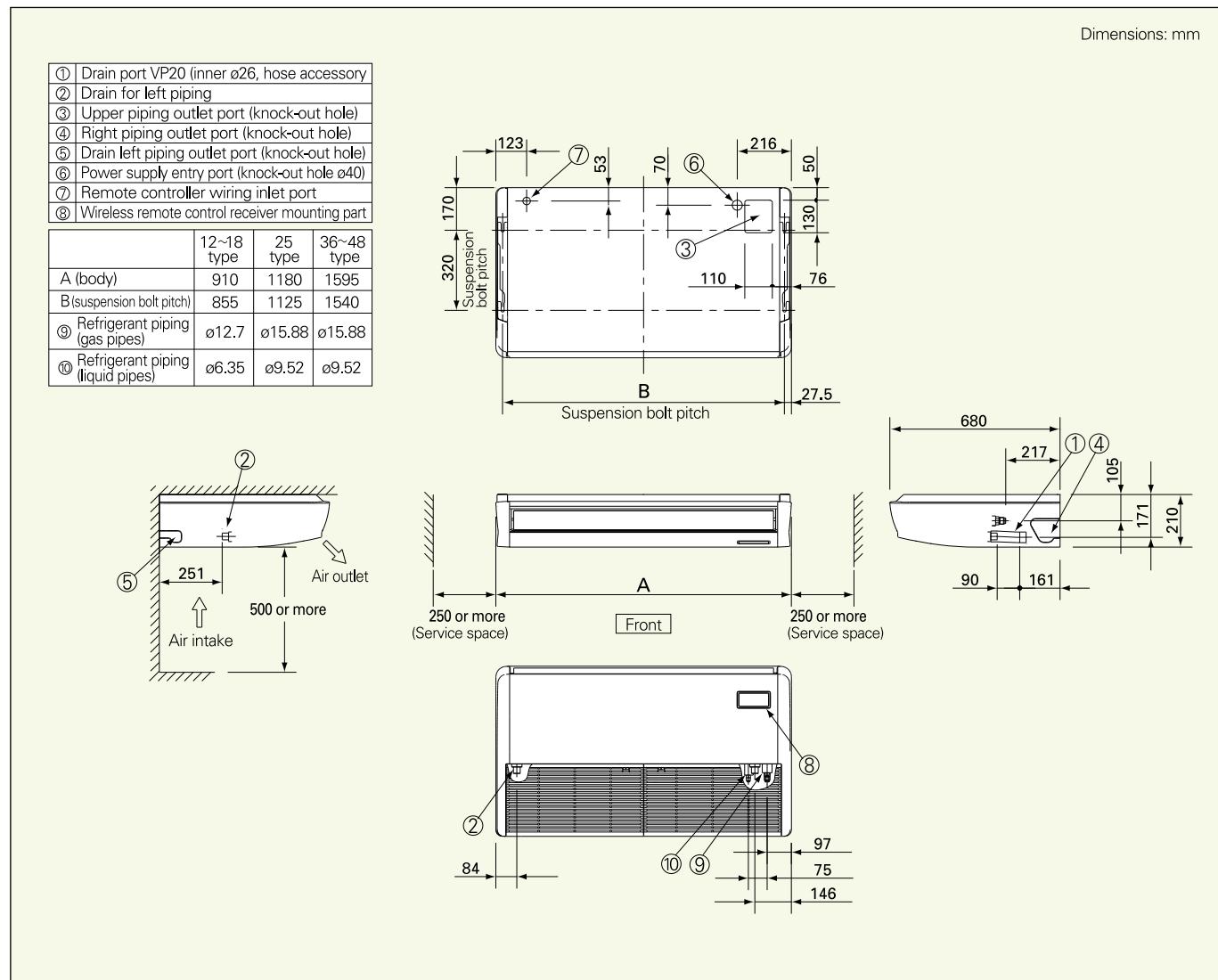
Model name (SPW-)		T125XH	T165XH	T185XH	T255XH	T365XH	T485XH		
Power source		220/230/240V, 1 phase-50, 60Hz							
Cooling capacity	kW	3.6	4.5	5.6	7.3	10.6	14.0		
	BTU/h	12,000	15,000	19,000	25,000	36,000	47,800		
Heating capacity	kW	4.2	5.0	6.3	8.0	11.4	16.0		
	BTU/h	14,000	17,000	21,000	27,000	39,000	54,600		
Power input	Cooling kW	0.028/0.029/0.029		0.031/0.032/0.032	0.043/0.043/0.044	0.073/0.074/0.075	0.085/0.086/0.088		
	Heating kW	0.028/0.028/0.029		0.031/0.031/0.032	0.042/0.042/0.043	0.072/0.073/0.074	0.084/0.085/0.086		
Running amperes	Cooling A	0.26/0.24/0.23		0.28/0.26/0.24	0.38/0.35/0.33	0.62/0.57/0.53	0.69/0.63/0.60		
	Heating A	0.26/0.24/0.23		0.28/0.26/0.25	0.38/0.35/0.34	0.62/0.57/0.55	0.69/0.63/0.62		
Fan motor	Type	Sirocco fan *2			Sirocco fan *3	Sirocco fan *4			
	Airflow rate (H/M/L) m³/min	12/10/9		13/11/9	18.5/15/14	27.5/23/20	30/26/22		
	Output kW			0.03	0.04	0.08			
Power sound level (H/M/L) dB(A)		46/43/41		47/44/41	49/47/44	52/49/46	54/51/48		
Pressure sound level (H/M/L) dB(A)		35/32/30		36/33/30	38/36/33	41/38/35	43/40/37		
Dimensions	Height mm	210							
	Width mm	910			1180	1595			
	Depth mm	680							
Piping connections	Liquid (Flare) mm	6.35			9.52				
	Gas (Flare) mm	12.7			15.88				
	Drain piping	VP-20							
Net weight kg		21			25	33			

Rated conditions

Cooling: Indoor air temperature 27°C DB/19°C WB, outdoor air temperature 35°C DB
 Heating: Indoor air temperature 20°C DB, outdoor air temperature 7°C DB/6°C WB

Data subject to change without notice.

Dimensional data



FLOOR/CEILING MOUNTED UNITS

FTR type



■ Option

● Timer remote controller



RCS-TM80BG

● Wireless remote controller



(Transmitter, common part)

● Simplified remote controller



RCS-KR1AGB

■ Three-speed centrifugal fan

■ Anti-mold and anti-bacteria washable filters

■ Ceiling Installation

■ Low operating sound

■ Horizontal flap swinging or set on a fixed position



Indoor units specifications

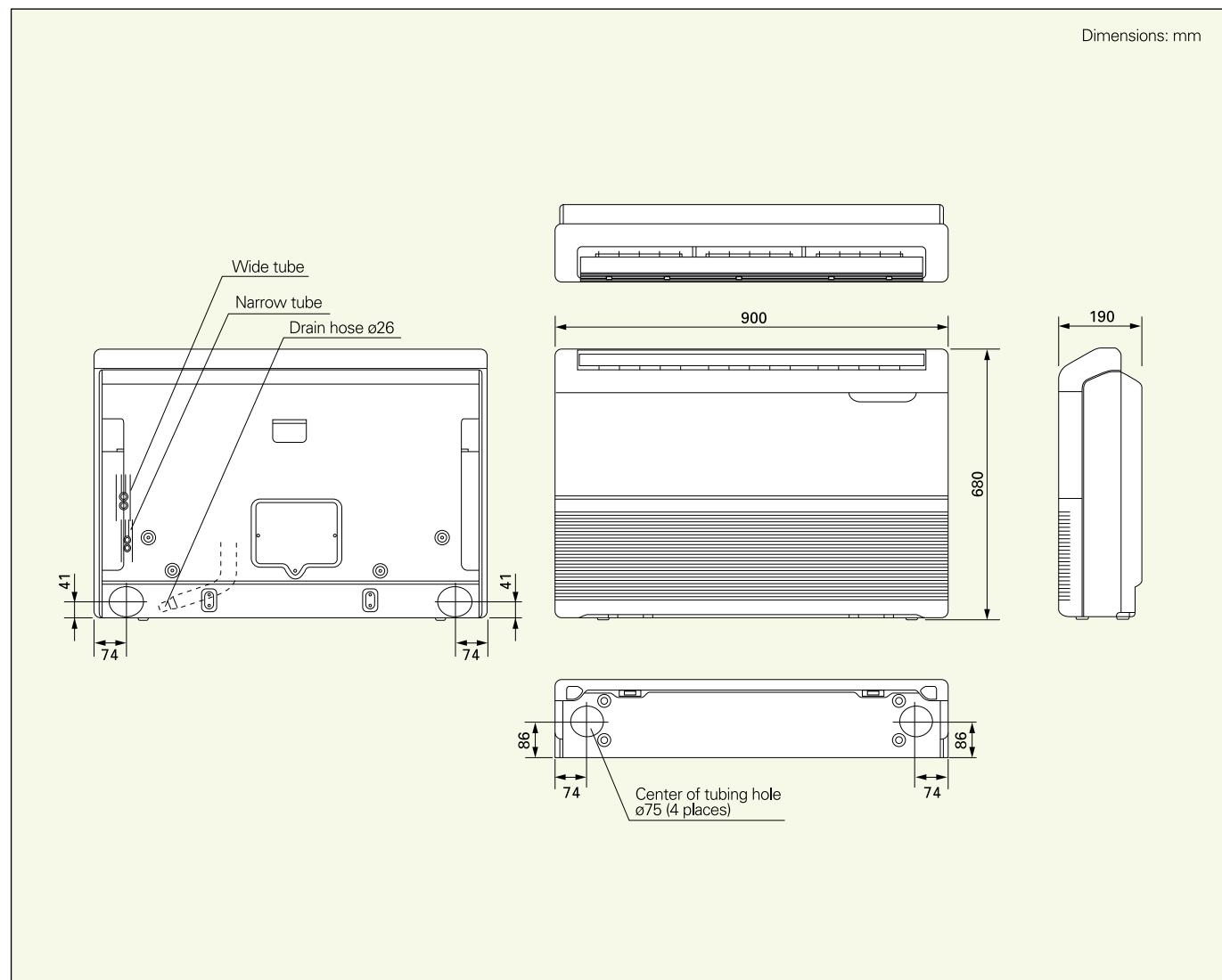
Model name	(SPW-)	FTR74EXH56B	FTR94EXH56B	FTR124EXH56B	FTR164EXH56B	FTR184EXH56B	FTR224EXH56B		
Power source		220/230/240V, 1 phase-50Hz							
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6	6.4		
	BTU/h	7,500	9,600	12,000	15,000	19,000	22,000		
Heating capacity	kW	2.5	3.2	4.2	5.0	6.3	7.0		
	BTU/h	8,500	11,000	14,000	17,000	21,000	24,000		
Power input	Cooling	kW	0.65/0.65/0.65			0.88/0.88/0.88			
	Heating	kW	0.65/0.65/0.65			0.88/0.88/0.88			
Running amperes	Cooling	A	0.29/0.29/0.29			0.41/0.41/0.41			
	Heating	A	0.29/0.29/0.29			0.41/0.41/0.41			
Fan motor	Type		Sirocco fan						
	Airflow rate (H/M/L)	m³/min	10.5/9/7.5		12/10.8/9.7		15/13.5/12		
	Output	kW	0.07		0.09				
Power sound level (H/M/L)		dB(A)	60/54/49		62/58/54		63/60/57		
Pressure sound level (H/M/L)		dB(A)	49/43/38		51/47/43		52/49/46		
Dimensions	Height	mm	680						
	Width	mm	900						
	Depth	mm	190						
Piping connections	Liquid (Flare)	mm	6.35 (1/4)						
	Gas (Flare)	mm	12.7 (1/2)						
	Drain piping		VP-26						
Net weight		kg	23.5						

Rated conditions

Cooling: Indoor air temperature 27°C DB/19°C WB, outdoor air temperature 35°C DB
 Heating: Indoor air temperature 20°C DB, outdoor air temperature 7°C DB/6°C WB

Data subject to change without notice.

Dimensional data



WALL-MOUNTED UNITS

K type



■ Option

● Timer remote controller



RCS-TM80BG

● Wireless remote controller



RCS-SH1BG

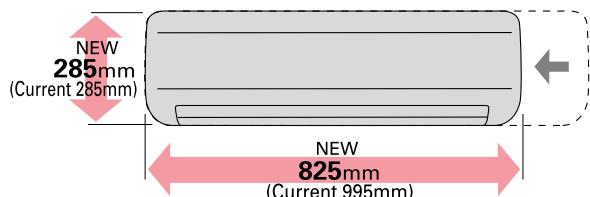
● Simplified remote controller



RCS-KR1AGB

■ Lighter and smaller units make the installation easy!

The width has been removed by approx. 17%, and light weight has been realized.



■ Silent design

Low operation sound in the top class of the industry has been realized, making these models most suitable for hotels and hospitals.

■ Flat & Intimate design

The compact design and flat face make match the interior, and installation without a sense of incongruity is possible even in a small space.

■ Closed discharge port

When operation is stopped, the flap closes completely to prevent entry of dust into the unit and to keep the equipment clean.

■ Washable front panel

The indoor unit's front panel can be easily removed and washed for trouble-free cleaning.



■ Piping outlet in three directions

Piping outlet is possible in the three directions of rear, right, and left, making the installation work easier.

■ Anti-mold filters are standard equipment.

IMPORTANT

When indoor unit are installed in a calm place where low noise is required such as hotel rooms, bed rooms or VIP rooms and so on, noise from Electronic Expansion Valve controlling refrigerant flow may be offensive to ear during cooling and heating operation.

In order to prevent the noise, please install optional External Electronic Expansion Valve Kit (ATK-SVRK56BG) at narrow tube 5 to 15m away from indoor unit.

Indoor units specifications

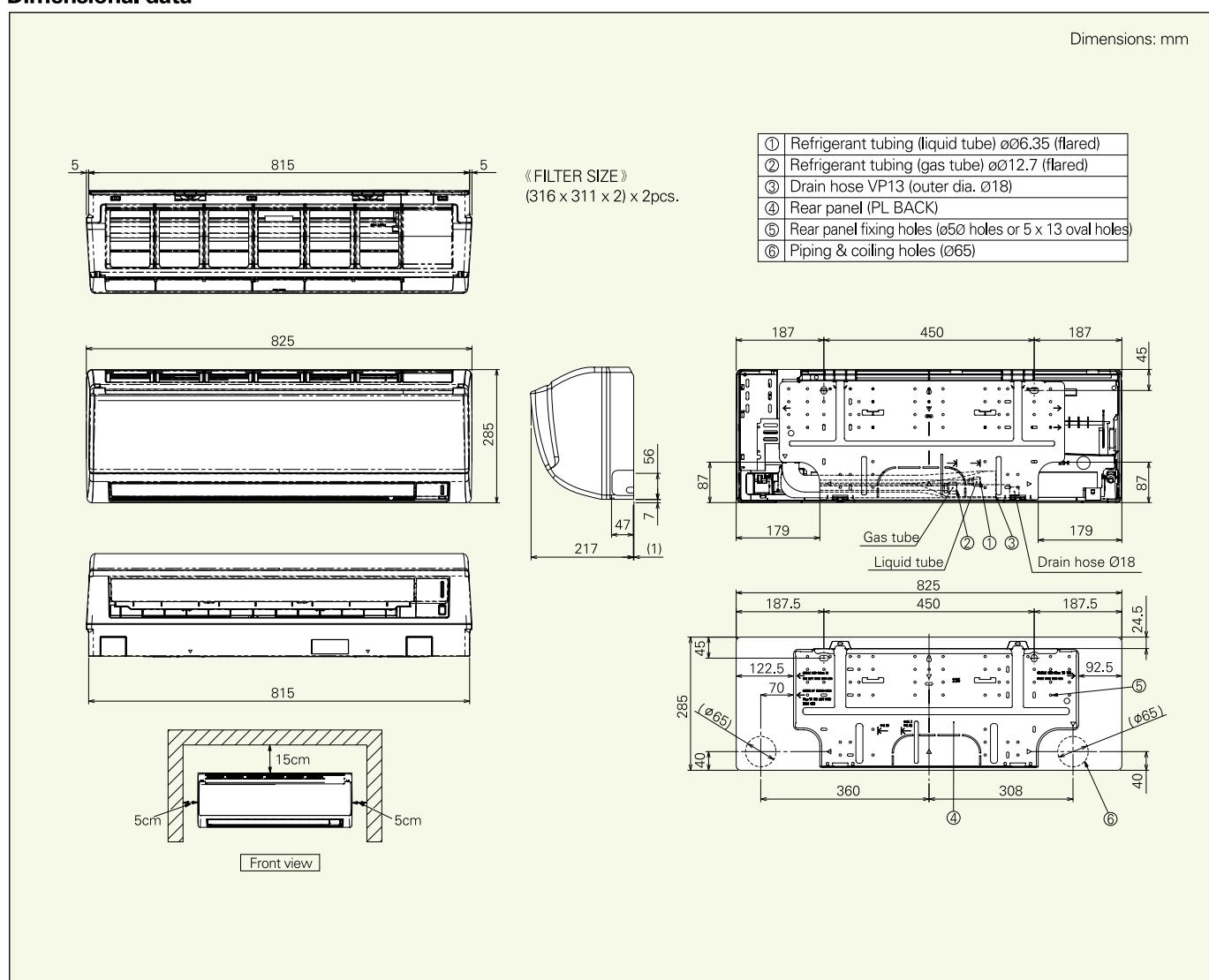
Model name (SPW-)		K075XH	K095XH	K125XH
Power source		220/230/240V, 1 phase-50, 60Hz		
Cooling capacity	kW	2.2	2.8	3.6
	BTU/h	7,500	9,600	12,000
Heating capacity	kW	2.5	3.2	4.2
	BTU/h	8,500	11,000	14,000
Power input	Cooling	kW	0.018 / 0.019 / 0.019	0.021 / 0.022 / 0.023
	Heating	kW	0.019 / 0.019 / 0.020	0.022 / 0.023 / 0.023
Running amperes	Cooling	A	0.16 / 0.16 / 0.16	0.19 / 0.19 / 0.20
	Heating	A	0.17 / 0.17 / 0.18	0.20 / 0.20 / 0.20
Fan motor	Type	Sirroco fan		
	Airflow rate (H/M/L)	m³/min	9 / 7.5 / 6	10 / 8.5 / 6.5
	Output	kW	0.047	
Power sound level (H/M/L)		dB(A)	46 / 43 / 39	48 / 44 / 40
Pressure sound level (H/M/L)		dB(A)	35 / 32 / 28	37 / 33 / 29
Dimensions	Height	mm	285	
	Width	mm	825	
	Depth	mm	217	
Piping connections	Liquid (Flare)	mm (in)	6.35 (1/4)	
	Gas (Flare)	mm (in)	12.7 (1/2)	
	Drain piping		VP-13	
Net weight		kg	10	

Rated conditions

Rated conditions
Cooling: Indoor air temperature 27°C DB/19°C WB, outdoor air temperature 35°C DB
Heating: Indoor air temperature 20°C DB, outdoor air temperature 7°C DB/6°C WB

Data subject to change without notice.

Dimensional data



WALL-MOUNTED UNITS

KR type



■ Option

● Wired remote controller



RCS-TM80BG

● Wireless remote controller



RCS-SH1BG

● Simplified remote controller



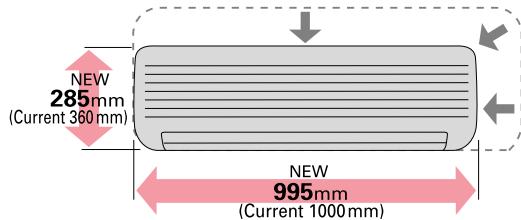
RCS-KR1AGB

■ Closed discharge port

When operation is stopped, the flap closes completely to prevent entry of dust into the unit and to keep the equipment clean.

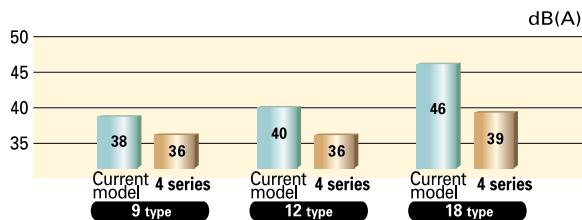
■ Lighter and smaller units make the installation easy!

The height has been removed by approx. 20%, and an extremely thin design has been realized.



■ Silent design

Low operation sound in the top class of the industry has been realized, making these models most suitable for hotels and hospitals.



■ Elegant color and round-shape design, adoption of horizontal stripes.

The compact design matches the interior, and installation without a sense of incongruity is possible even in a small space.

■ Washable front panel

The indoor unit's front panel can be easily removed and washed for trouble-free cleaning.



■ Piping outlet in three directions

Piping outlet is possible in the three directions of rear, right, and left, making the installation work easier.

■ Anti-mold filters are standard equipment.

IMPORTANT

When indoor unit are installed in a calm place where low noise is required such as hotel rooms, bed rooms or VIP rooms and so on, noise from Electronic Expansion Valve controlling refrigerant flow may be offensive to ear during cooling and heating operation.

In order to prevent the noise, please install optional External Electronic Expansion Valve Kit (ATK-SVRK56BG, ATK-SVRK160BG (with 254 type)) at narrow tube 5 to 15m away from indoor unit.

Indoor units specifications

Model name		(SPW-)	KR74GXH56B	KR94GXH56B	KR124GXH56B	KR164GXH56B	KR184GXH56B	KR254GXH56B		
Power source			220/230/240V, 1 phase-50, 60Hz							
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6	7.3			
	BTU/h	7,500	9,600	12,000	15,000	19,000	25,000			
Heating capacity	kW	2.5	3.2	4.2	5.0	6.3	8.0			
	BTU/h	8,500	11,000	14,000	17,000	21,000	27,000			
Power input	Cooling	kW	0.031/0.033/0.035					0.049/0.052/0.055		
	Heating	kW	0.031/0.033/0.035					0.049/0.052/0.055		
Running amperes	Cooling	A	0.15/0.15/0.15					0.23/0.23/0.24		
	Heating	A	0.15/0.15/0.15					0.23/0.23/0.24		
	Type		Cross flow fan *1							
Fan motor	Airflow rate (H/M/L)	m³/min	10/8/6			12/10/8		16/14/10		
	Output	kW	0.011			0.015		0.023		
Power sound level (H/M/L)		dB(A)	47/43/39					53/49/46		
Pressure sound level (H/M/L)		dB(A)	36/32/28					42/38/35		
Dimensions	Height	mm	285					330		
	Width	mm	995					1140		
	Depth	mm	203					228		
Piping connections	Liquid (Flare)	mm	6.35					9.52		
	Gas (Flare)	mm	12.7					15.88		
	Drain piping		VP-13							
Net weight		kg	14					21		

Rated conditions

Rated conditions
Cooling: Indoor air temperature 27°C DB/19°C WB, outdoor air temperature 35°C DB
Heating: Indoor air temperature 20°C DB, outdoor air temperature 7°C DB/6°C WB

Data subject to change without notice.

Dimensional data

Dimensions: mm

7~18 type

①	Liquid pipe ø6.35 (Length: Approx. 470 mm)
②	Gas pipe ø12.7 (Length: Approx. 400 mm)
③	Drain hose VP13 (Length: Approx. 450 mm)
④	Installation fitting
⑤	Fitting fixing hole (ø5 hole or 5 x 13 slot)
⑥	Installation fitting piping, wiring inlet (ø80)

25 type

①	Liquid pipe ø9.52 (Length: Approx. 570 mm)
②	Gas pipe ø15.88 (Length: Approx. 500 mm)
③	Drain hose VP13 (Length: Approx. 450 mm)
④	Installation fitting
⑤	Fitting fixing hole (ø5 hole or 5 x 13 slot)
⑥	Installation fitting piping, wiring inlet (ø80)

The figure contains two sets of technical drawings for different air conditioner models. The left set, labeled '7~18 type', includes a front view with a height of 200 mm, a side view with a height of 285 mm, and a cross-sectional view with various dimensions like 995 mm width, 3 mm thickness, and internal part numbers ① through ⑥. The right set, labeled '25 type', includes a front view with a height of 228 mm, a side view with a height of 330 mm, and a cross-sectional view with dimensions like 1140 mm width, 20 mm thickness, and internal part numbers ① through ⑥. Both sets show the 'Receiver' component and provide views in the direction of arrow Z.

CONCEALED FLOOR STANDING UNITS

FLOOR STANDING UNITS

FMR type



WIDE OPERATION DRY

FR type



WIDE OPERATION DRY

■ Option

●Wired remote controller



RCS-TM80BG

●Wireless remote controller



RCS-BH80BG.WL

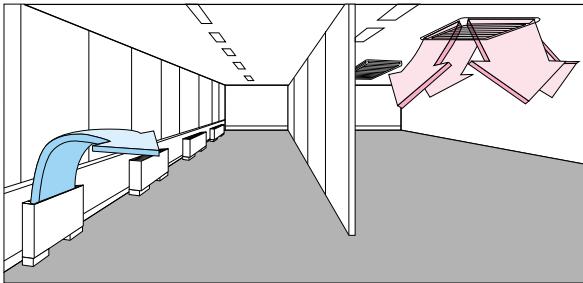
●Simplified remote controller



RCS-KR1AGB

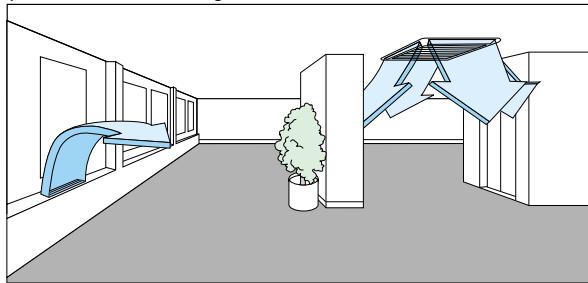
■ Effective perimeter handling is possible with simple work execution.

As indoor units of a multi-system, the perimeter zone is handled effectively.



■ Realization of perimeter air condition with high interior quality

Compact and effective air conditioning is performed with embedding in perimeter counters. Most suitable for perimeter air handling in hotels etc.



■ Large window space can be taken.

The simple external appearance and the streamlined layout make it possible to secure a large window space (unit height: 615 mm). Most suitable for perimeter air conditioning in hotels etc.



A wired remote controller can be installed in the body.



Indoor units specifications

Concealed Floor Standing type

Model name		(SPW-)	FMR74GXH56B	FMR94GXH56B	FMR124GXH56B	FMR164GXH56B	FMR184GXH56B	FMR254GXH56B		
Power source			220/230/240V, 1 phase-50, 60Hz							
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6	7.1			
	BTU/h	7,500	9,600	12,000	15,000	19,000	24,000			
Heating capacity	kW	2.5	3.2	4.2	5.0	6.3	8.0			
	BTU/h	8,500	11,000	14,000	17,000	21,000	27,000			
Power input	Cooling	kW	0.051/0.056/0.061	0.079/0.085/0.091	0.116/0.126/0.136	0.150/0.160/0.170				
	Heating	kW	0.036/0.040/0.045	0.064/0.070/0.076	0.079/0.091/0.101	0.110/0.120/0.130				
Running amperes	Cooling	A	0.24/0.25/0.26	0.37/0.38/0.39	0.54/0.56/0.58	0.70/0.72/0.73				
	Heating	A	0.17/0.18/0.19	0.30/0.31/0.32	0.37/0.41/0.43	0.52/0.54/0.56				
Fan motor	Type		Sirocco fan *1				Sirocco fan *2			
	Airflow rate (H/M/L)	m³/min	7/6/5	9/7/6	12/9/8	15/13/11	17/14/12			
	Output	kW	0.01	0.02	0.02	0.03	0.06			
Power sound level (H/M/L)		dB(A)	44/41/39	50/46/40	49/46/42	49/46/42	52/49/46			
Pressure sound level (H/M/L)		dB(A)	33/30/28	39/35/29	38/35/31	39/36/31	41/38/35			
Dimensions		HxWxD	mm	616x904x229		616x1219x229				
Piping connections	Liquid (Flare)	mm		6.35			9.52			
	Gas (Flare)	mm		12.7			15.88			
	Drain piping			VP-20						
Net weight		kg	21		28					

Floor Standing type

Model name		(SPW-)	FR74GXH56B	FR94GXH56B	FR124GXH56B	FR164GXH56B	FR184GXH56B	FR254GXH56B		
Power source			220/230/240V, 1 phase-50, 60Hz							
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6	7.1			
	BTU/h	7,500	9,600	12,000	15,000	19,000	24,000			
Heating capacity	kW	2.5	3.2	4.2	5.0	6.3	8.0			
	BTU/h	8,500	11,000	14,000	17,000	21,000	27,000			
Power input	Cooling	kW	0.051/0.056/0.061	0.079/0.085/0.091	0.116/0.126/0.136	0.150/0.160/0.170				
	Heating	kW	0.036/0.040/0.045	0.064/0.070/0.076	0.079/0.091/0.101	0.110/0.120/0.130				
Running amperes	Cooling	A	0.24/0.25/0.26	0.37/0.38/0.39	0.54/0.56/0.58	0.70/0.72/0.73				
	Heating	A	0.17/0.18/0.19	0.30/0.31/0.32	0.37/0.41/0.43	0.52/0.54/0.56				
Fan motor	Type		Sirocco fan *1				Sirocco fan *2			
	Airflow rate (H/M/L)	m³/min	7/6/5	9/7/6	12/9/8	15/13/11	17/14/12			
	Output	kW	0.01	0.02	0.02	0.03	0.06			
Power sound level (H/M/L)		dB(A)	44/41/39	50/46/40	49/46/42	50/47/42	52/49/46			
Pressure sound level (H/M/L)		dB(A)	33/30/28	39/35/29	38/35/31	39/36/31	41/38/35			
Dimensions		HxWxD	mm	615x1065x230		615x1380x230				
Piping connections	Liquid (Flare)	mm		6.35			9.52			
	Gas (Flare)	mm		12.7			15.88			
	Drain piping			VP-20						
Net weight		kg	29		39					

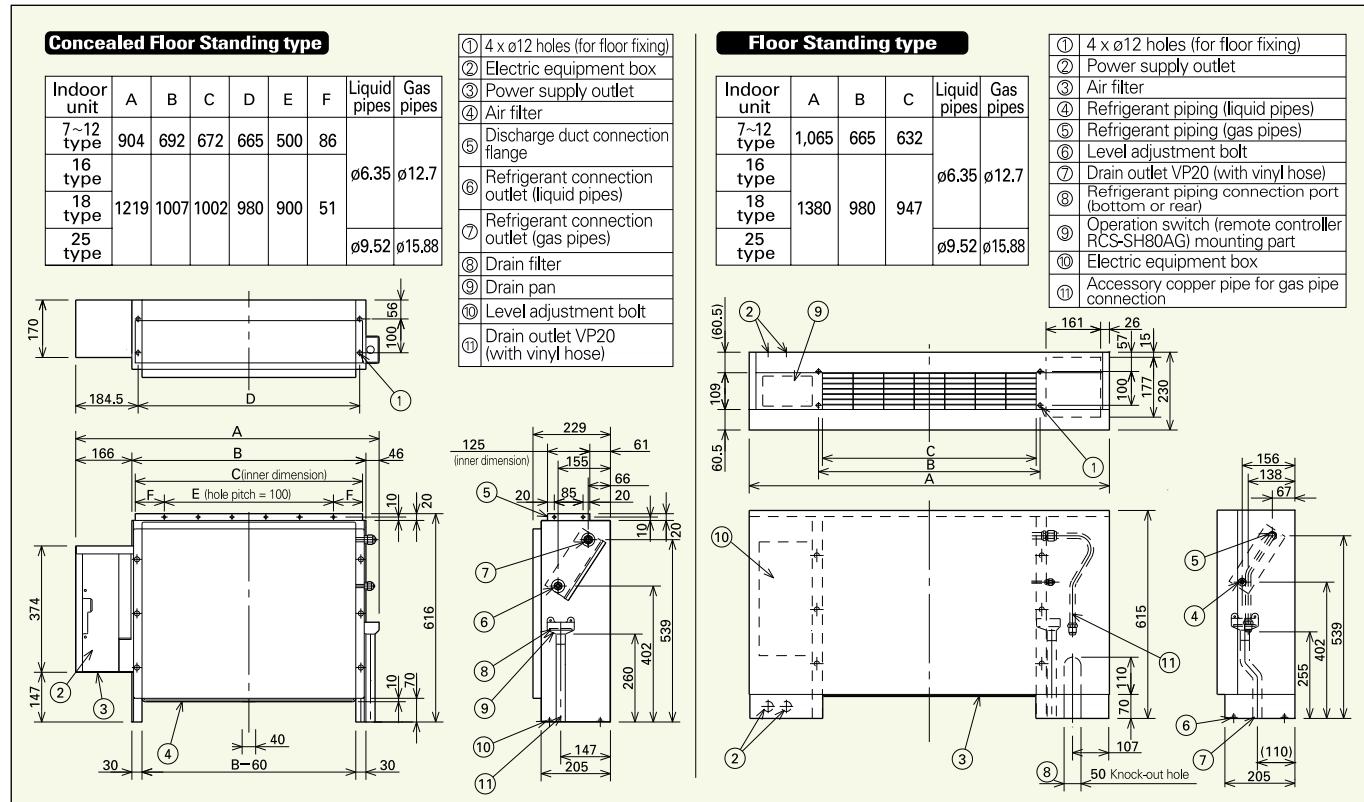
Rated conditions

Cooling: Indoor air temperature 27°C DB/19°C WB, outdoor air temperature 35°C DB

Heating: Indoor air temperature 20°C DB, outdoor air temperature 7°C DB/6°C WB

Data subject to change without notice.

Dimensional data



TOTAL HEAT EXCHANGER WITH DX COIL

GU

type



■ Option

● Timer remote controller



RCS-TM80BG

● Wireless remote controller



RCS-BH80BG.WL

● Simplified remote controller



RCS-KR1AGB

■ A powerful fresh air incoming to match the right temperature and humidity indoor condition in medium-sized commercial space

■ Integration of heat recovery ventilation and DX coil technology for optimum air temperature control

■ High efficiency on both temperature and humidity condition

■ Compact and quiet design

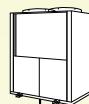
■ High static pressure available

■ Standard spigots ensure simple connection to ductwork

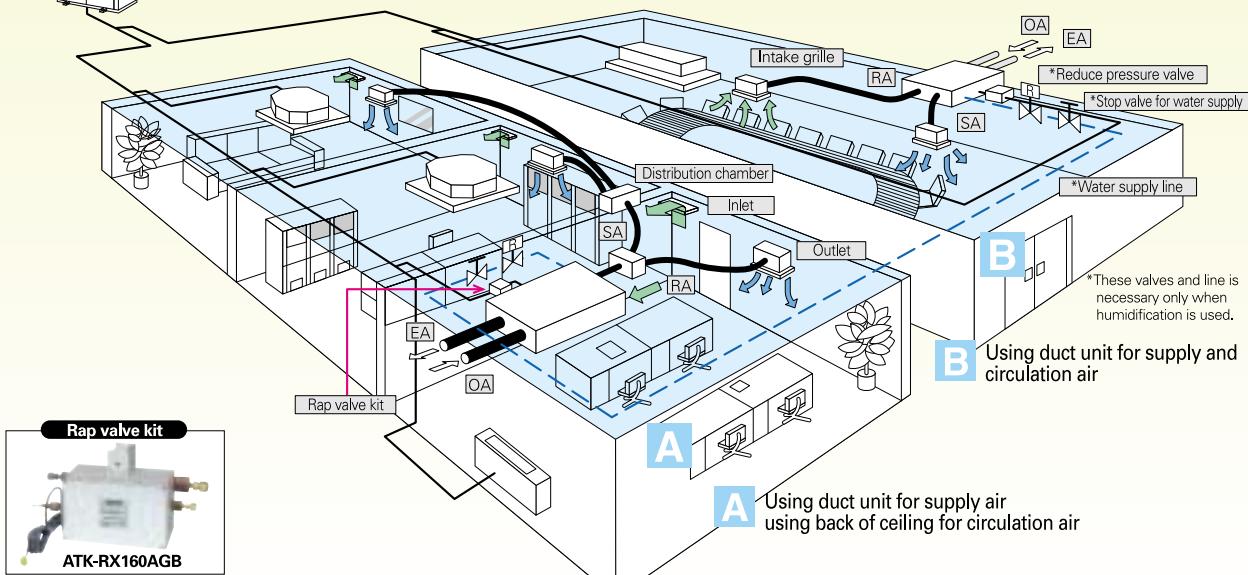
■ Easy-to-clean filter prevent mould or bacteria from occurring

■ Easy maintenance and service by out installation of the electric box

Rap valve kit "ATK-RX160AGB" is required for each unit.



System Outline



Indoor units specifications

Model name	(SPW-)	GU055XH	GU075XH	GU105XH
Air circulation (H)	m ³ /h	500	750	1,000
Power source				
Fresh Air Load	Cooling kW	5.3 (1.7)*1	8.2 (2.6)*1	10.7 (3.4)*1
Treatment Capacity	Heating kW	6.5 (2.3)*1	9.8 (3.5)*1	12.6 (4.6)*1
Enthalpy Exchange	Cooling %		59	
Efficiency	Heating %		67	
Temp. Exchange Efficiency	%		75	
Equivalent cooling capacity	kW	3.6	5.6	7.3
	BTU/h	12,000	19,000	25,000
Power input	Cooling kW	0.532/0.532/0.532	0.737/0.737/0.737	0.798/0.798/0.798
	Heating kW	0.532/0.532/0.532	0.737/0.737/0.737	0.798/0.798/0.798
Running amperes	Cooling A	2.5/2.4/2.3	3.4/3.2/3.1	3.7/3.5/3.4
	Heating A	2.5/2.4/2.3	3.4/3.2/3.1	3.7/3.5/3.4
Fan motor	Type	Sirocco fan		
	External static pressure-Return air Pa	183 (170)	221 (188)	135 (88)
	External static pressure-Supply air Pa	205 (182)	264 (218)	176 (137)
	Output kW	0.28 (4P)×2	0.35 (4P)×2	
Power sound level (C/H)	dB(A)	57 (Cooling), 58 (Heating)	58 (Cooling), 59 (Heating)	59 (Cooling), 60 (Heating)
Pressure sound level (C/H)	dB(A)	46 (Cooling), 47 (Heating)	47 (Cooling), 48 (Heating)	48 (Cooling), 49 (Heating)
Dimensions	Height mm	425		450
	Width mm	1785		1903
	Depth mm	1000	1120	1220
Piping connections	Liquid (Flare) mm	6.35 (1/4)		
	Gas (Flare) mm	12.7 (1/2)		
	Drain piping	VP-25		
Connection Duct Diameter	mm	250		300
Net weight	kg	134	153	168

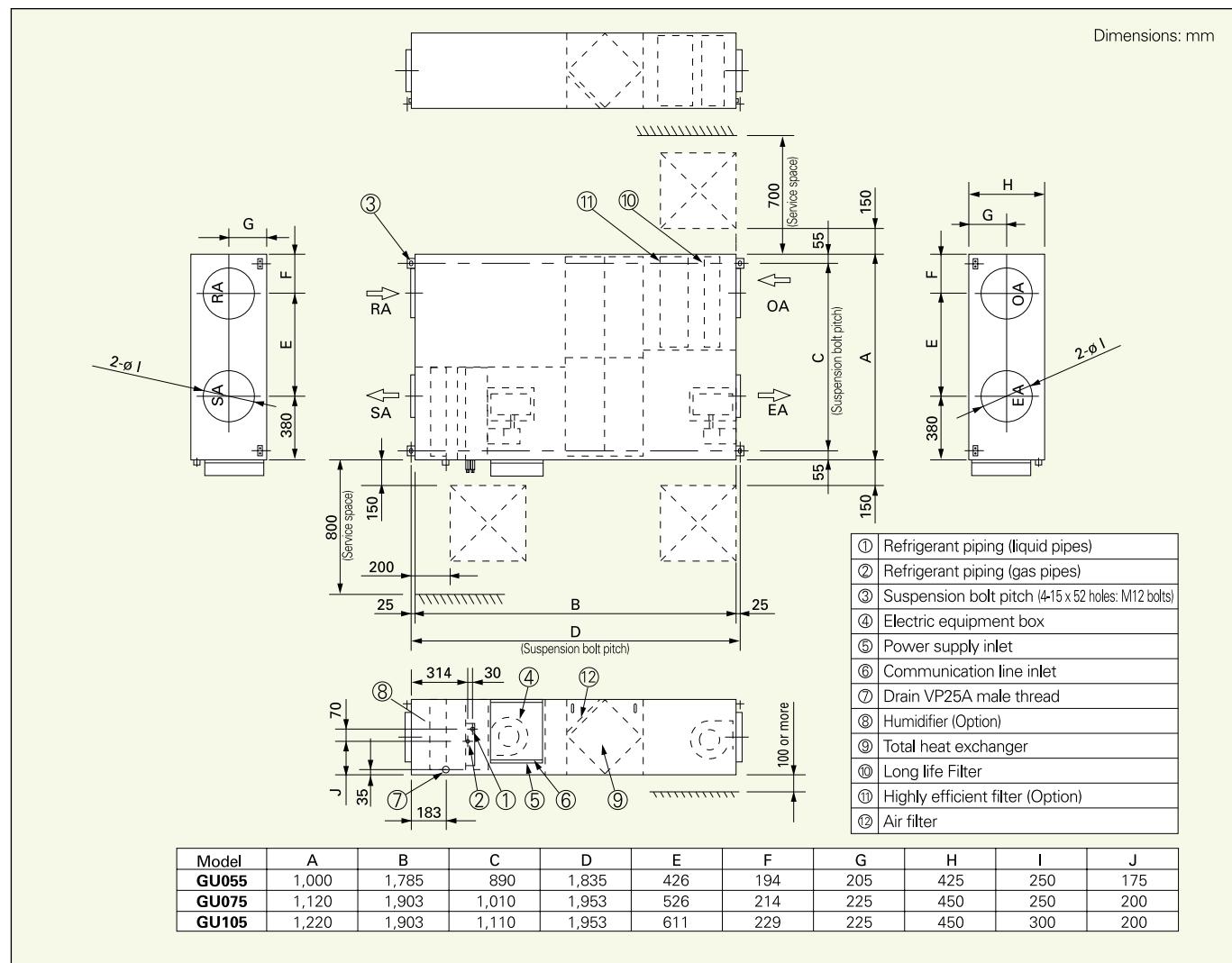
Rated conditions

Cooling: Indoor air temperature 27°C DB/19°C WB, outdoor air temperature 35°C DB
Heating: Indoor air temperature 20°C DB, outdoor air temperature 7°C DB/6°C WB

* The values in () for the external static pressure and operating sound are for use of booster cable.

*1: Heat recovery capacity by heat exchanger.
Data subject to change without notice.

Dimensional data



Convenient system control

Sanyo control equipment meets the needs of various of customers.

Operation system	Individual control systems			Timer operation
Needs	Normal operation	Operation from each seat	Quick and easy operation	Daily and weekly program
External appearance				
Type, model name	Wired remote controller RCS-TM80BG	Wireless remote controller RCS-XM18BG.WL RCS-SH80BG.WL RCS-SS80BG.WL RCS-BH80BG.WL RCS-TRP80BG.WL RCS-SH1BG	Simplified remote controller RCS-KR1AGB	Schedule timer SHA-TM64AGB
Number of indoor units which can be controlled	1 group, 8 units	1 group, 8 units	1 group, 8 units	64 groups, max. 64 units
Use limitations	●Up to 2 units can be connected per group.	●Up to 2 units can be connected per group.	●Up to 2 units can be connected per group.	●Power supply from the system controller ●When there is no system controller, connection is possible to the T10 terminal of an indoor unit.
Connectable indoor unit	4 & 5 series indoor unit	4 & 5 series indoor unit	4 & 5 series indoor unit	4 & 5 series indoor unit
Function	ON/OFF	○	○	○
	Mode setting	○	○	○
	Fan speed setting	○	○	○
	Temperature setting	○	○	○
	Air flow direction	○	○	○
	Permit/Prohibit switching	—	—	—
	Weekly program	○	—	○

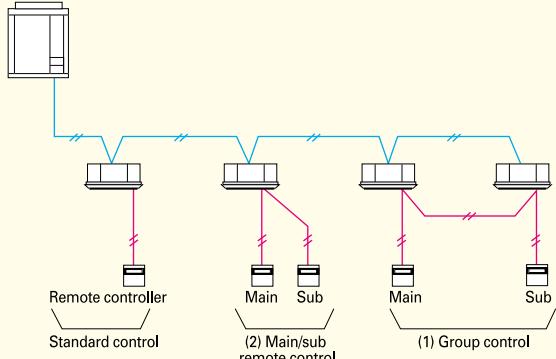
*1 Select two of the following: "Fan speed", "Air flow direction", "Central/Individual", and "Filter sign".

*2 Setting is not possible when a remote control unit is present. (Use the remote control for setting.)

Centralized control systems			
Operation with various function from center station	Only ON/OFF operation from center station	Simplified charge ratio for each tenant	
System controller SHA-KC64AGB	ON/OFF controller SHA-KC16KAGB	Intelligent controller SHA-KT256EG	Communication adaptor SHA-KA128AGB
64 groups, max. 64 units	16 groups, max. 64 units	64 units x 4 systems, max. 256 units	2 systems, max. 128 units
<ul style="list-style-type: none"> Up to 10 units, can be connected to one system. Main unit/sub unit (1 main unit + 1 sub unit) connection is possible. Use without remote controller is possible. 	<ul style="list-style-type: none"> Up to 8 units (4 main units + 4 sub units) can be connected to one system. Use without remote controller is impossible. 	<ul style="list-style-type: none"> A communication adaptor (SHA-KA128AGB) must be installed for three or more systems. 	
4 & 5 series indoor unit	4 & 5 series indoor unit	4 & 5 series indoor unit	4 & 5 series indoor unit
○	○	○	○
○	—	○	○
○	—	○	○
○	—	○	○
○*2	—	○*2	○*2
○	○	○	○
—	—	○	○

Convenient system control

Remote controller (Wired remote controller/Wireless remote controller)

System example	Control contents	Part name, model No.	Quantity
	Standard control ○ Control of the various operations of the indoor unit by wired or wireless remote controller. ○ Cooling or heating mode of the outdoor unit is decided by first-pressed priority of the remote controller. ○ Switching between remote controller sensor and body sensor is possible.	•Wired remote controller RCS-TM80BG •Wireless remote controller RCS-XM18BG.WL RCS-SH80BG.WL RCS-SS80BG.WL RCS-BH80BG.WL RCS-TRP80BG.WL RCS-SH1BG	1 unit each
	(1) Group control ○ Batch remote control of all indoor units ○ Operation of all indoor units in the same mode ○ Up to 8 units can be connected. ○ The sensor is the body sensor, and thermostat ON/OFF setting in regard to the temperature set by the remote controller is possible for each indoor unit.	•Wired remote controller RCS-TM80BG	1 unit
	(2) Main/sub remote control ○ Max. 2 remote controllers per indoor unit. (Main remote controller and sub remote controller can be connected.) ○ The button pressed last has priority. ○ Timer setting is possible even with the sub remote controller.	Main or sub •Wired remote controller RCS-TM80BG •Wireless remote controller RCS-XM18BG.WL RCS-SH80BG.WL RCS-SS80BG.WL RCS-BH80BG.WL RCS-TRP80BG.WL RCS-SH1BG	As required

■ Wired remote controller (RCS-TM80BG)



(Dimensions: H 120 x W 120 x D 16 mm)

● Basic remote controller ON/OFF

- Operation mode changeover (Cooling, Heating, Dry, Auto, Fan)
- Temperature setting (Cooling/Dry: 18-30deg Heating: 16-30deg)
- Air volume adjustment (HH, H, LL, Auto)
- Air flow direction adjustment

● Time Function

- 24 hours real time clock
- Day of the week indicator

● Weekly Program Function

- A maximum of 6 action can be programmed for each day.

● Outing Function

- This function can be prevent the room temperature from dropping or rising when the occupants are out for a long time.

● Sleeping Function

- This function controls the room temperature for comfortable sleeping.

● Max. 8 indoor units can be controlled from one remote controller.

● Remote control by main remote controller and sub controller is possible.

- Max. 2 remote controller (main remote controller and sub controller) can be installed for one indoor unit.

■ Wireless remote controller

XM type RCS-XM18BG.WL	X type RCS-SH80BG.WL	XMR, SR, FTR type RCS-SS80BG.WL
		
ADR, T, LDR type RCS-TRP80BG.WL	K type RCS-SH1BG	For all indoor units RCS-BH80BG.WL
		

● Ventilation independent operation is possible.

○ When commercial ventilation fans or heat-exchange ventilation fans have been installed, they can be operated with this remote control (interlocked operation with the indoor unit or independent ventilation ON/OFF).

● Easy installation for the 4-way cassette type simply by replacing the corner part.

● 24 hours timer function

● Remote control by main remote controller and sub controller is possible.

- Max. 2 remote controller (main remote controller and sub controller) can be installed for one indoor unit.

Do not perform group control for 3 Series indoor unit and 4 Series indoor unit together.

● When RCS-BH80BG.WL is used, wireless control becomes possible for all indoor units.

○ When a separate receiver is set up in a different room, control from that room also becomes possible.

○ Automatic operation by means of the emergency operation button is possible even when the remote controller has been lost or the batteries have been exhausted.

● In addition, there are other functions like temperature setting, operation switching, wind direction/fan speed setting, etc.

■ Simplified remote controller (RCS-KR1AGB)



(Dimensions: H 120 x W 70 x D 16 mm)

● A remote controller with simple functions and basic operation.

- Suitable for open rooms or hotels where detailed functions are not required.
- ON/OFF, operation mode switching, temperature setting, wind velocity switching, wind direction setting, alarm display, and remote controller self-diagnosis can be performed.
- Batch group control for up to 8 indoor units.
- Remote control by main remote controller and sub controller is possible with a simplified remote controller or a wired remote controller. (up to two units.)

■ Schedule timer (SHA-TM64AGB)



(Dimensions: H 120 x W 120 x D 16 mm)

* As operation mode and temperature settings are not possible with the schedule timer, it must be used together with a remote controller, a system controller, an intelligent controller, etc. Also, as it does not have an address setting function, the control function of a system controller etc. must be used for address setting.

● Up to 64 groups (max. 64 indoor units) can be controlled divided into 8 timer groups.

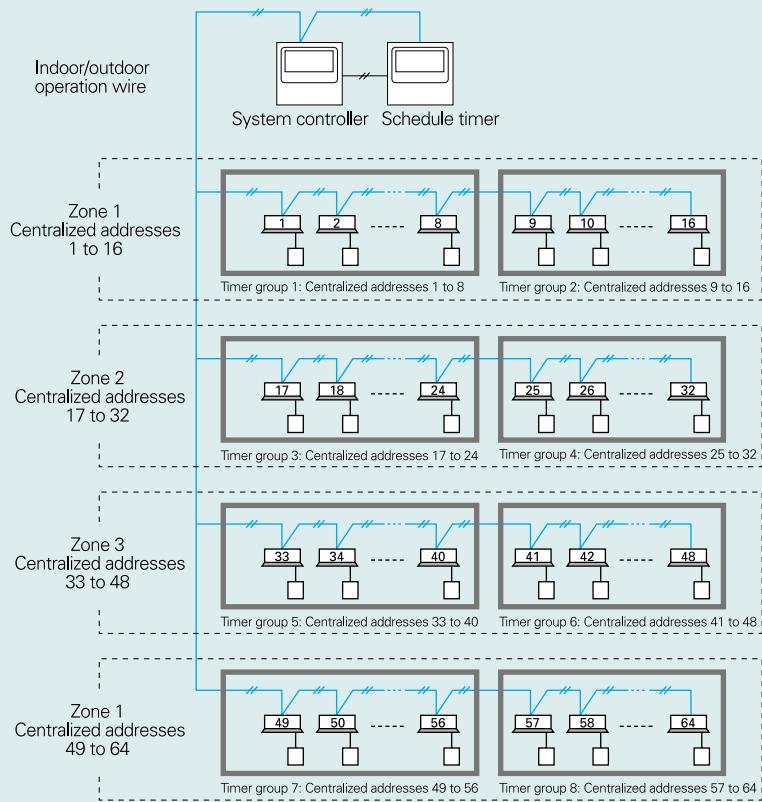
● Six program operations (Operation/Stop/Local permission/Local prohibition) per day can be set in a program for one week.

- Only operation or stop, remote controller local permission or remote controller local prohibition, and their respective combinations are possible. (Operation + local permission, stop + local prohibition, only local permission, etc.)
- Local prohibition and the combination of the three items of temperature setting, mode change, and operation/stop can be set at the time of installation.

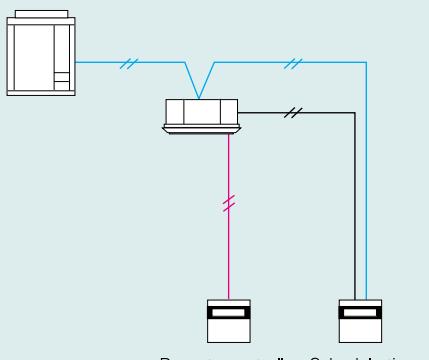
● A function for pausing the timer in case of national holidays has been added, and timer operation also can be stopped for a long time.

- By setting holidays or operation stop within one week, the timer can be paused just for that week.
- All timer settings can be stopped with the timer "ON/OFF effective" button. (Return to timer operation is made by pressing the button again.)

● Connection example 2 (power supply from the central controller)



● Connection example 1 (power supply from the indoor unit)



Convenient system control

■ System controller (SHA-KC64AGB)



(Dimensions: H 160 x W 160 x D 21+69 (embedding dimension) mm)

- * Power supply ○ AC 220 to 240 V
- * I/O part ○ Remote input (effective voltage: DC 24 V : All ON/All OFF)
- Remote output (voltage-free contact) : All ON/All OFF (external power supply within DC 30 V)

* Total wiring length ○ 1 km

● Individual control is possible for max. 64 groups, 64 indoor units.

○ Control of 64 indoor units divided into 4 zones. (One zone can have up to 16 groups, and one group can have up to 8 units.)

○ Control is possible for ON/OFF operation mode, fan speed, air flow direction (only when used without a remote controller), operation monitoring, alarm monitoring, ventilation, remote controller local operation prohibition, etc.

Individual	All operations are possible also from the remote controller. However, the contents will be changed to the contents of the controller operated last.
Central: 1	The remote controller cannot be used for ON/OFF. (All other operations are possible from the remote controller.)
Central: 2	The remote controller cannot be used for ON/OFF, mode change, and temperature setting. (All other operations are possible from the remote controller.)
Central: 3	The remote controller cannot be used for mode change or temperature setting change. (All other operations are possible from the remote controller.)
Central: 4	The remote controller cannot be used for operation mode change. (All other operations are possible from the remote controller.)

● A control mode corresponding to the use condition can be selected from 10 patterns.

Ⓐ Operation mode: Central control mode or remote control mode can be selected.

- Central control mode: The system controller is used as centralized control device. (Setting from a remote controller can be prohibited by prohibiting local operation from the system controller.)
- Remote control mode: The system controller is used as a remote controller. (Setting from the system controller can be prohibited by prohibiting local operation from another central control unit.)

Ⓑ Controlled unit number mode: All mode or zone 1, 2, 3, 4 mode can be selected.

- All mode: All, zone, or group unit can be selected.
- Zone 1, 2, 3, 4 mode: Setting is possible only for the indoor units of zone 1, 2, 3, or 4.

	Ⓐ Operation mode	
	Central control mode	Remote control mode
Ⓑ Controlled unit number mode	All mode All central control *Example 1	All remote control
Zone 1 mode	Zone 1 central control *Example 2	Zone 1 remote control
Zone 2 mode	Zone 2 central control	Zone 2 remote control *Example 3
Zone 3 mode	Zone 3 central control *Example 4	Zone 3 remote control
Zone 4 mode	Zone 4 central control	Zone 4 remote control *Example 5

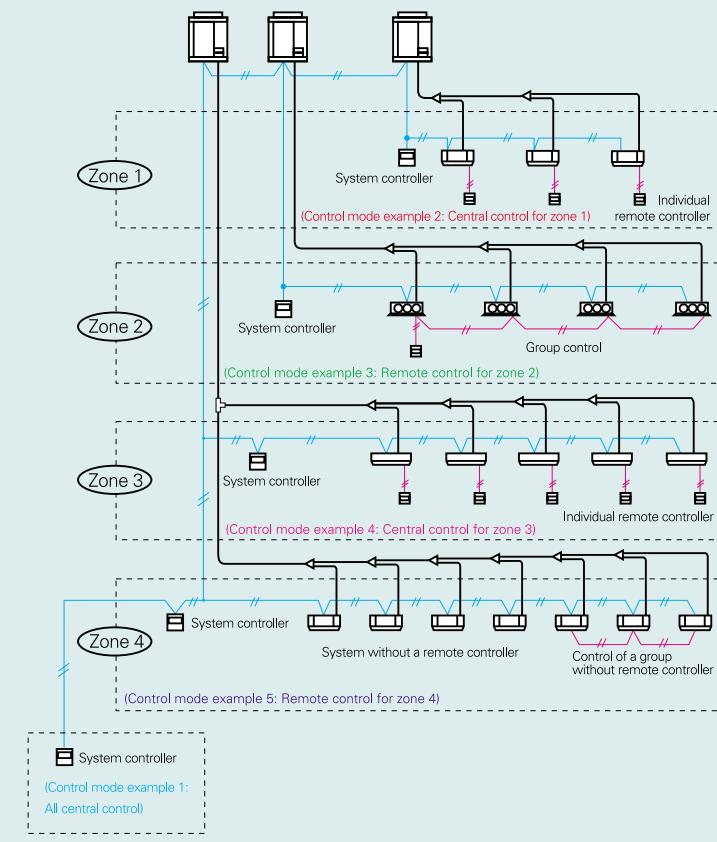
● Joint use with a remote controller, an intelligent controller, a schedule timer, etc. is possible.

(The maximum number of connectable system controllers is 10, including other central controllers on the same circuit.)

(In case of joint use with a wireless remote controller, there are limitations for the control mode. Please use only with "Individual" and "Central 1".)

● Control of systems without a remote controller and of main/sub systems (a total of up to two units) is possible.

● Connection example



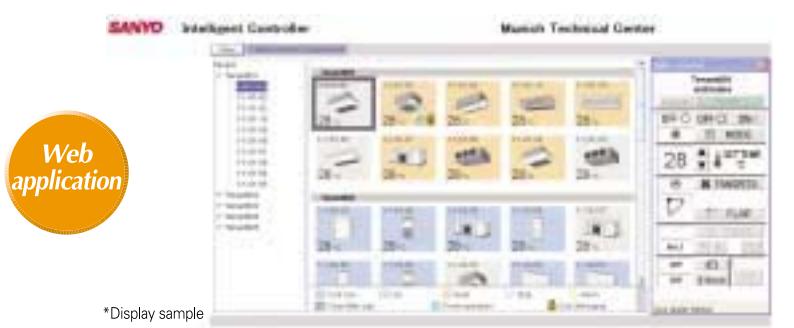
■ Intelligent controller (SHA-KT256EG)



- Limitation contents for prohibited operation
 Prohibition means limitation of the operation contents from the remote controller. It is also possible to change the prohibition items.

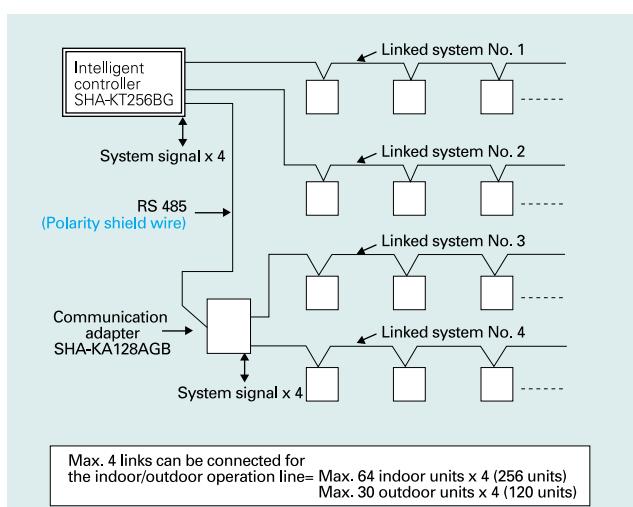
	Limitation contents
Individual	There is no limitation for the operation of the remote controller. However, the contents will be changed to the contents of the controller operated last. (Last-pressed priority)
Prohibition: 1	The remote controller cannot be used for ON/OFF. (All other operations are possible from the remote controller.)
Prohibition: 2	The remote controller cannot be used for ON/OFF, operation mode change, and temperature setting. (All other operations are possible from the remote controller.)
Prohibition: 3	The remote controller cannot be used for operation mode change and temperature setting. (All other operations are possible from the remote controller.)
Prohibition: 4	The remote controller cannot be used for operation mode change. (All other operations are possible from the remote controller.)

Note: Avoid joint use of the AMY system and the intelligent controller on the same indoor/outdoor operation line.



- Max. 256 indoor units (4 systems x 64 units) can be controlled. In case of three or more systems, a communication adapter SHA-KA128AG must be installed on the outside.
- Operation is possible as batch, in zone units, in tenant units, and in group units.
- ON/OFF, operation mode setting, temperature setting, for speed setting, air flow direction setting (when used without a remote controller), and remote controller local operation prohibition (prohibition 1, 2, 3, 4) can be done.
- A system without a remote controller is possible. Joint use with a remote controller or a system controller etc. also is possible.
- Use of a schedule timer and holiday setting also can be done.
- Proportional distribution of the air-conditioning energy is possible.
- Input pulse signal from Electric or Gas consumption meter.

* In case of joint use with a wireless remote control system, there are limitations for the control mode. Please use only with "Permission" and "Prohibition 1".



■ Communication adaptor (SHA-KA128AGB)



- Required to connect three or more linked wiring systems (indoor/outdoor operation lines) to the intelligent controller .
- Also required for connection of the AMY software.
 * For more detail, please take a look at page 58.
- Two linked wiring systems can be connected to one SHA-KA128AG, but max. 4 systems can be connected for the entire intelligent controllers.
- As this is not a splash-proof design, it must be installed indoors or in the control panel etc.

Convenient system control

■ ON/OFF controller (SHA-KC16KAGB)



(Dimensions: H 160 x W 160 x D 14 + 69 (embedding dimension) mm)

*Power supply ○ AC 220 to 240 V

*I/O part ○ Remote input (effective voltage: within DC 24V) : All ON/OFF

○ Remote output (allowable voltage: within DC 30V) : All ON, All alarm

- 16 groups of indoor units can be controlled.

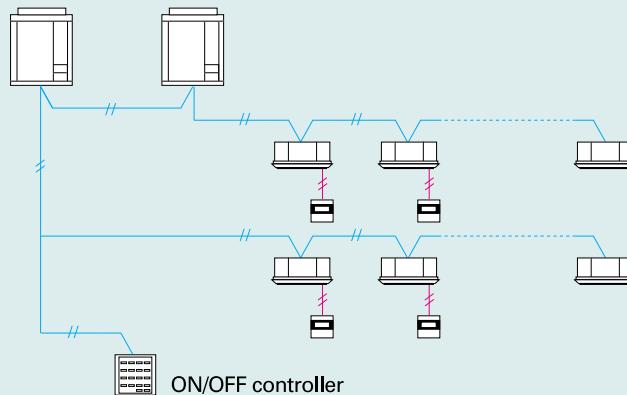
- Collective control and individual group (unit) control can also be performed.

- Up to 8 ON/OFF controller (4 main, 4 sub) can be installed in one link system.

- The operation status can be determined immediately.

*As operation mode and temperature settings are not possible with the ON/OFF controller, it must be used together with a remote controller a system controller etc.

■ System example

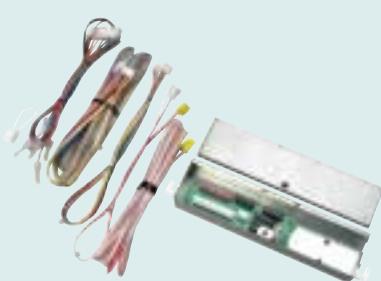


■ Remote sensor (ART-K45AGB)



- This is a remote sensor which can be used with 4 series indoor unit. Please use it to detect the room temperature when no remote controller sensor or body sensor is used. (Correspondence to a system without a remote controller is possible.)
- For joint use with a remote control switch, use the remote control switch as main remote controller.

■ Signal output board (ACC-SG-AGB)



- Defrost, heating, cooling and thermostat ON signal can be put out to the outside.
- Signal type (2 types): Voltage specification, non-voltage specification

■ Seri-Para I/O Unit for indoor unit (ACC-SP16TAG)



Input

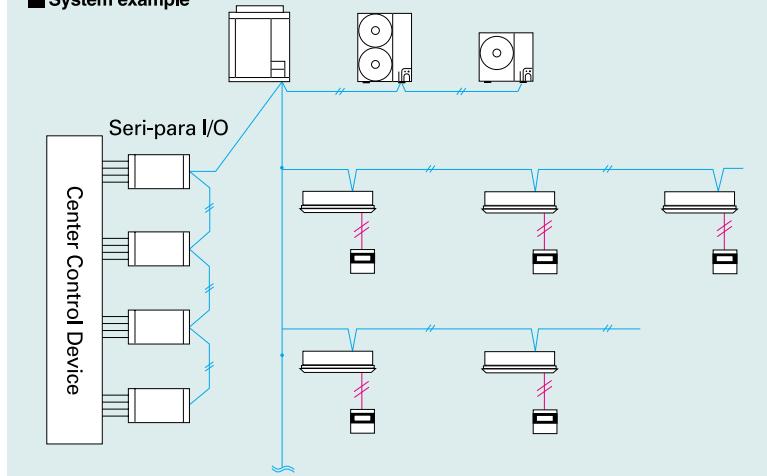
1. On/Off (Pulse DC24V)
2. Local prohibit (Continuous DC24V)
3. Temp setting (Analog DC1~5V)
4. All On/Off (Pulse DC24V)
5. All local prohibit & Emergency stop (Continuous DC24V)

Output

1. On/Alarm/Answer back/Filter sign
2. Room temp (Analog DC4-20mA)
3. All On/Off

- This unit can control up to 4 outdoor units.
- From the center control device, mode changing and batch operation/batch stop are possible.
- This unit can control and monitor the status up to 16 groups of indoor units (Max 64 indoor units).
- Up to 4 seri-para units can be connected in one system.
- From the center control device, it is possible to set the temperature and to monitor the room temperature or intake air temperature.

■ System example



■ LonWorks Interface (SHA-LN16UGB)



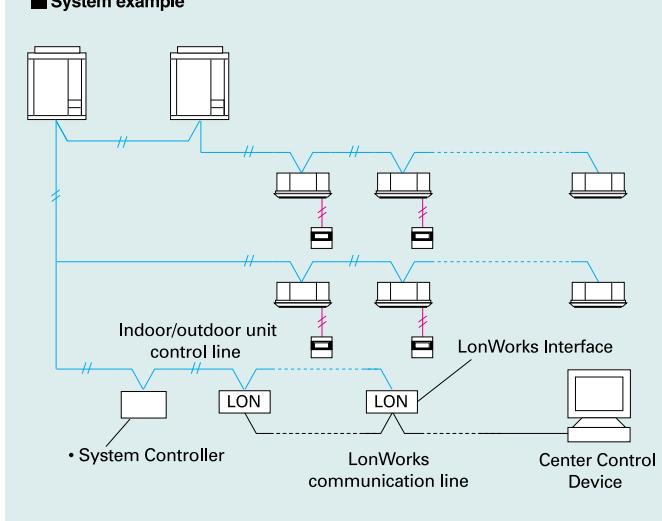
FUNCTIONS

A/C unit settings from the LonWorks communicator	Settings for each group of indoor units	Start/stop Temp. setting Operation mode Option 1 settings(*) Option 2 settings(*)
	Settings for all units	Emergency stop
	A/C unit status notifications made to the LonWorks communicator	Start/stop Temp setting Operation mode Option 1 settings(*) Option 2 settings(*) Alarm status Indoor units with active alarms Room temp. A/C unit status
	Configuration properties	Transmission intervals settings Minimum time secured for transmission

* Select two of the following: remote controller prohibit, fan speed setting, air direction setting, filter sign reset.

- This interface is a communications converter for connecting LonWorks to the Sanyo air conditioner unit (PAC • GHP) control network.
- From the host connected to LonWorks, basic settings and status monitoring is possible for up to 16 groups of A/C units.

■ System example

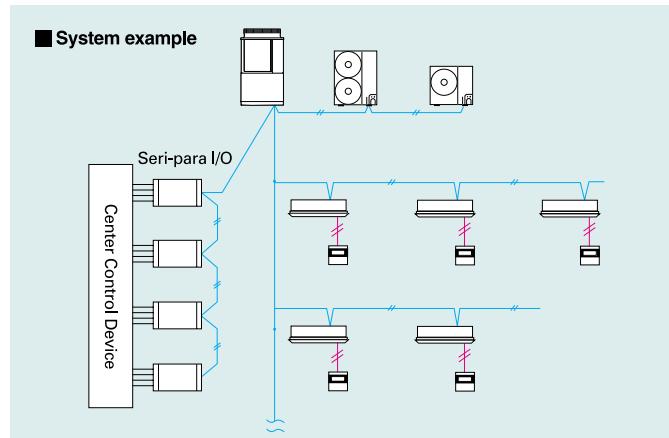


Convenient system control

■ Seri-Para I/O unit for outdoor unit (ACC-XSP4U1GB)



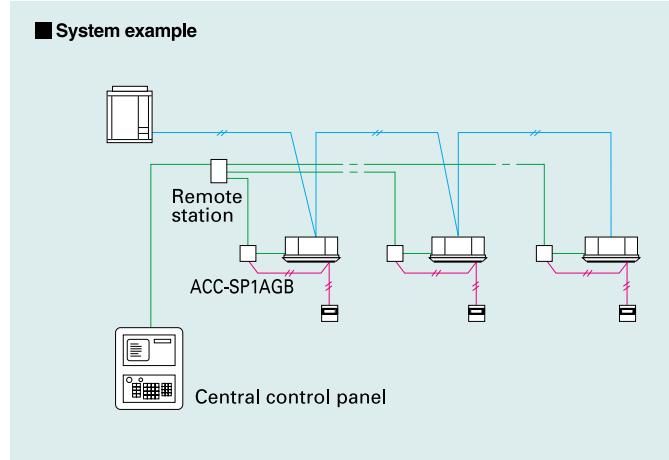
- This unit can control up to 4 outdoor units.
- From the center control device, mode changing and batch operation/batch stop are possible.
- Required for demand control.



■ MINI Seri-Para I/O Unit (ACC-SP1AGB)



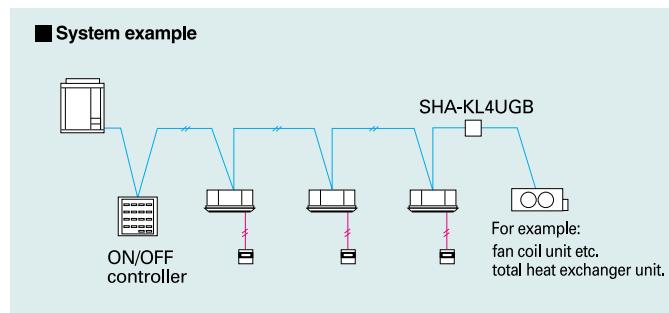
- Control and status monitoring is possible for individual indoor unit (1 group).
- In addition to operation and stop, there is a digital input function for air speed and operation mode.
- Temperature setting and measuring of the indoor suction temperature can be performed from central monitoring.
- The analog input for temperature setting is 0 to 10 V.
- Power is supplied from the T10 terminal of the indoor unit. Separate power supply also is possible (in case of suction temperature measuring).



■ Local adaptor for ON/OFF control (SHA-KL4UGB)



- Control and status monitoring is possible for individual indoor unit by contact signal.



Control equipment external appearance drawings

MINI ECO-i

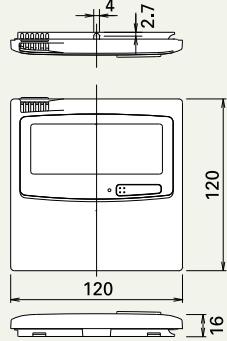
2 WAY ECO-i 5N series

3 WAY ECO-i

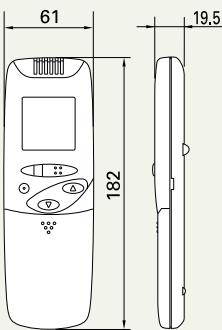
INDOOR UNITS

OPTIONAL PARTS

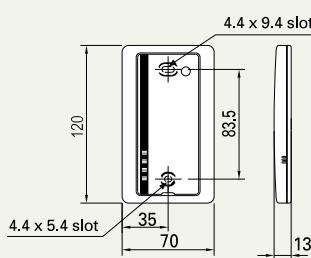
●Wired remote controller
(RCS-TM80BG)



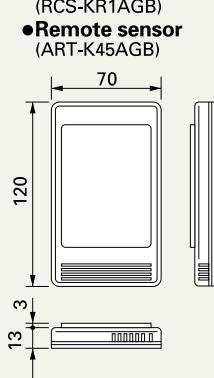
●Wireless remote controller



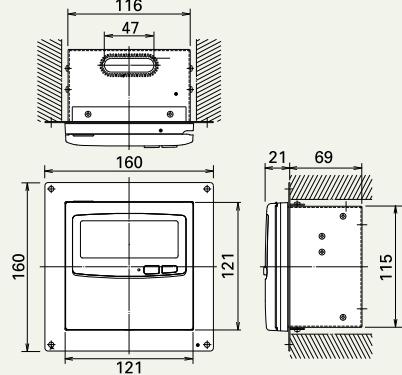
●Separate receiver for wireless remote controller



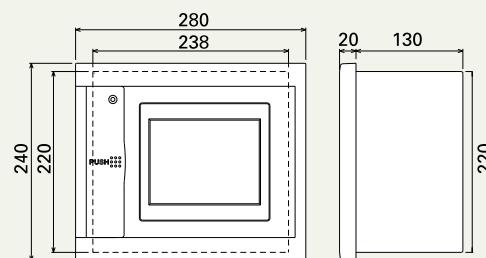
●Simplified remote controller
(RCS-KR1AGB)



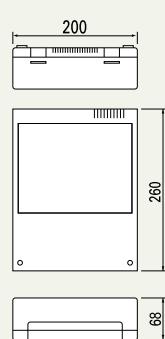
●System controller
(SHA-KC64AGB)



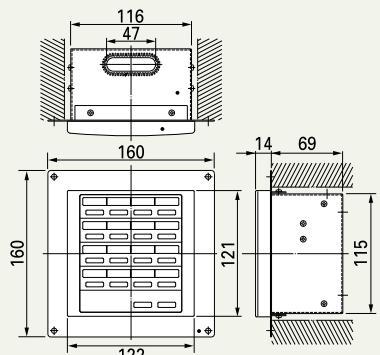
●Intelligent controller
(SHA-KT256EG)



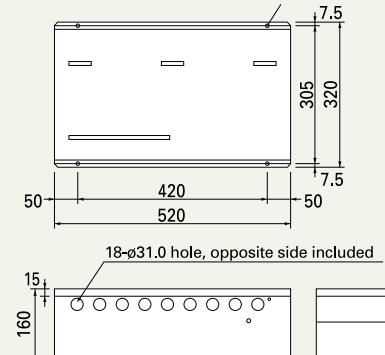
●Communication adapter
(SHA-KA128AGB)



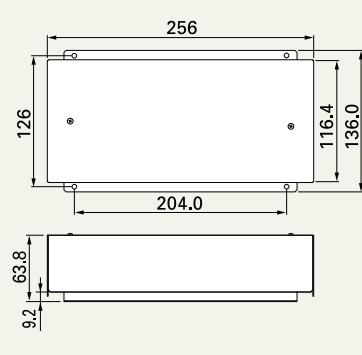
●ON/OFF controller
(SHA-KC16KAGB)



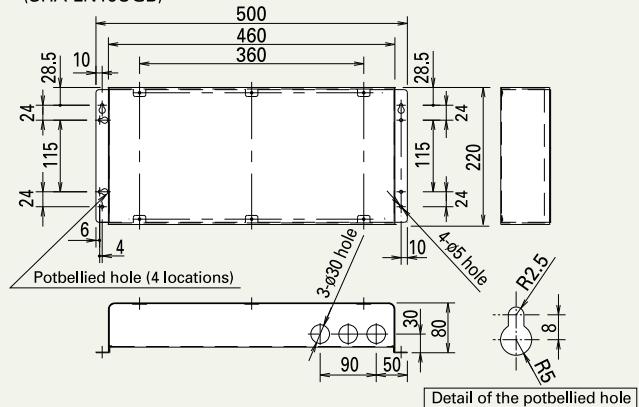
●Seri-Para I/O unit for 16 groups indoor unit
(ACC-SP16TAG)



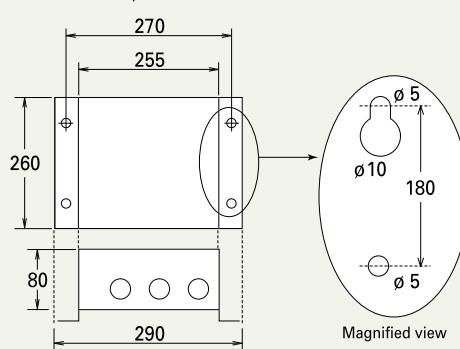
●Seri-Para I/O unit for each indoor unit
(ACC-SP1AGB)



●LonWorks interface
(SHA-LN16UGB)



●Seri-Para I/O unit for outdoor unit
(ACC-XSP4U1GB)



STAIMS Basic software / TECS-5000

~ Up to 1024 indoor units can be controlled by one PC ~

Functions of basic software

- Standard remote control for all indoor units
- Many timer schedule programs can be set on the calendar
- Detailed information display for alarms
- CSV file output with alarm history, operating status.
- Automatic data backup to HDD



With 4 upgrade packages the basic software can be upgraded to suit individual requirements

STAIMS optional software

TECS-5000A for Load distribution

~ Load distribution calculation for each tenant ~

- Air-conditioner load distribution ratio is calculated for each unit (tenant) with used energy consumption data (m³, kWh).
- Calculated data is stored with CSV type file.
- Data of last 365 days is stored

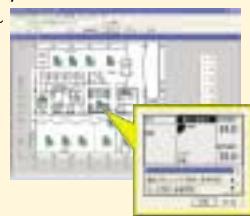


STAIMS optional software

TECS-5000G for Object layout display

~ Whole system can be controlled visually ~

- Operating status monitor is available on the layout display.
- Object's layout and indoor unit's location can be checked at once.
- Each unit can be controlled by virtual remote controller on the display.
- Max. 4 layout screens are shown at once.

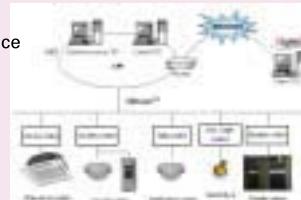


STAIMS optional software

TECS-5000B for BACnet interface

~ Connectable to BMS system ~

- Can communicate with other equipment by BACnet protocol.
- SANYO air conditioners system can be controlled by both BMS and STAIMS.
- Max. 256 indoor units can be connected to 1 PC (that has STAIMS basic & BACnet software).



STAIMS optional software

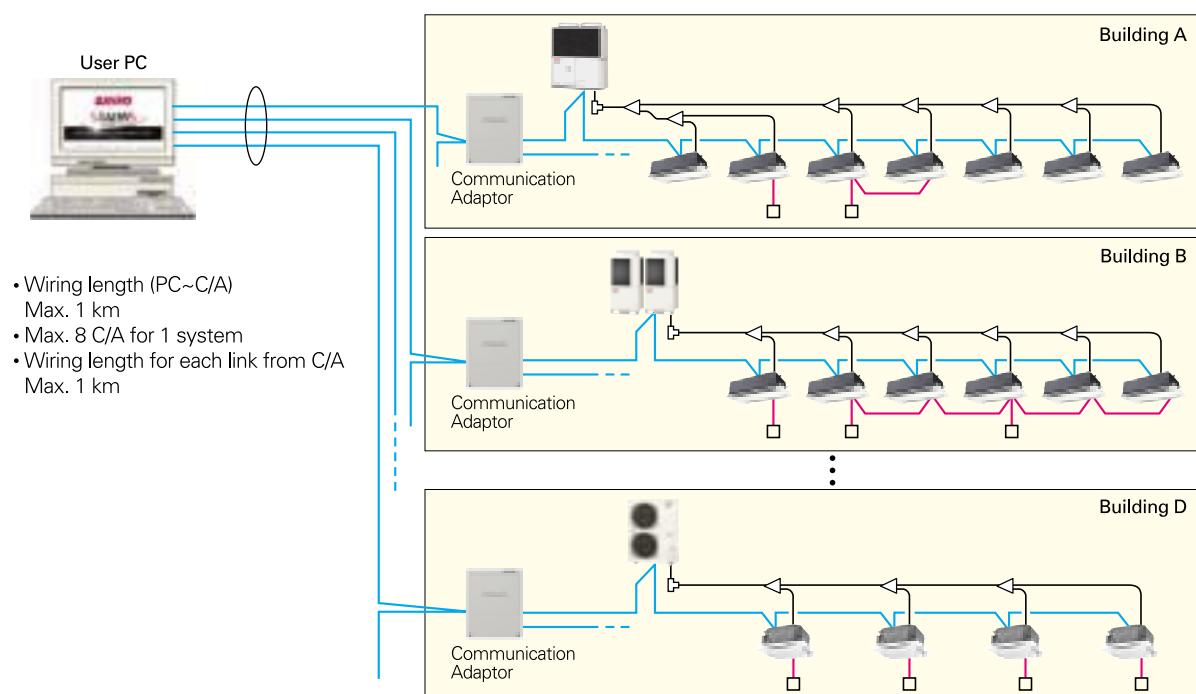
TECS-5000W for Web application

~ Web access & control from remote station ~

- Accessing STAIMS software from remote PC.
- You can monitor/operate SANYO system by using Web browser (Internet Explorer).



"STAIMS" suits for Large shopping center, University that has many area/buildings. 1 "STAIMS" PC can have 4 independent systems at once. Each system can have max. 8 C/A units, and control max. 512 units. In total, 1024 indoor units can be controlled by 1 "STAIMS" PC.



Anti Corrosion cort model Please ask SANYO sales office in your country.

Related documentation

In regard to CFC regulations and substitute refrigerant (HFC-type refrigerant R407C, R410A)

Since depletion of the ozone layer from CFC refrigerant (R11, R12, etc.) has become a global issue, an Ozone Layer Protection Law was enacted in 1988. Accordingly, CFC refrigerant production was globally terminated in 1995. Since HCFC22 refrigerant contains chlorine, its production is also regulated and will be terminated by 2020. The HFC-type refrigerants R407C and R410A both cause no harm to the ozone layer, and it is expected that they will be safe substitute refrigerants.

New refrigerants

The new refrigerant R407 is a non-azeotropic refrigerant mixture of three types (R32, R125, and R134a), and R410A is a pseudo-azeotropic refrigerant mixture of two types (R32, R125). Both do not contain chlorine (ozone layer depletion potential = 0).

	Refrigerant	Ingredients	Refrigerant ratio (wt%)	Ozone layer depletion potential	Combustibility
New refrigerant	HFC (Hydro Fluoro Carbon)	R407C	HFC32/HFC125/HFC134a	23/25/52	0
		R410A	HFC32/HFC125	50/50	
Conventional refrigerant	HCFC (Hydro Chloro Fluoro Carbon)	R22	HCFC22	100	0.05

Precaution for the installation work

R407C, R410A applies higher pressure than R22 and uses refrigeration oil different from R22. Therefore, piping works and tools are also different from those for R22 refrigerants.

Refrigerant	Conventional refrigerant	New refrigerant	
	R22 (single refrigerant)	R407C (refrigerant mixture)	R410A (refrigerant mixture)
Refrigeration oil	Mineral oil (Suniso)	Synthetic (ether) oil	Synthetic (ether) oil
Condensing pressure (at a condensation temperature of 50°C)	1.9MPa(100%)	2.1MPa(110%)	3.1MPa(160%)

Additional Refrigerant Charge

- Additional refrigerant charge amount is calculated from the narrow tubing total length as follows.

Tools specifically

- Please note that tools for new refrigerants R407C and R410A are different from those for R22.

Compatibility of representative tools for the installation

No	Equipment name	Application	Compatibility	
			R407C	R410A
1	Gauge manifold charging hose	Vacuum drying, refrigerant additional charging	Only for R407C	Only for R410A
2	Vacuum pump	Vacuum drying (Use is possible when a reverse-flow prevention adapter is attached.)	Joint use with R22	Joint use with R22
3	Reverse-flow prevention vacuum pump adapter	Must be used for vacuum drying.	Joint use with R22	Joint use with R22 (Use the accessory adapter.)
4	Weighting scale for refrigerant charging	Measuring the refrigerant charging	Joint use with R22	Joint use with R22
5	Torque wrench	For tightening of flare nuts	Joint use with R22	Only for R410A (1/2, 5/8)
6	Flaring tool (clutch type)	Piping flare processing	Joint use with R22 (A specialized version also exists.)	Joint use with R22 (A specialized version also exists.)
7	Adjustment tool for piping flare	Used when a conventional flaring tool is used for flare processing	Joint use with R22	Only for R410A
8	Charge port for refrigerant cylinder	For prevention of erroneous use	Only for R407C	Only for R410A
9	Refrigerant cylinder	Refrigerant filling. (Refrigerant color application at the upper part of the cylinder)	Only for R407C (brown)	Only for R410A (pink)
10	Gas leakage detector	Gas leakage check (As the HFC-type refrigerants R407C and R410A do not contain chlorine, a detector for R22 cannot be used.)	Only for HFC-type refrigerant (Joint use for R407C and R410A)	Only for HFC-type refrigerant (Joint use for R407C and R410A)
11	Pipe cutter, pipe bender	Pipe cutting, pipe bending	Joint use with R22	Joint use with R22
12	Welder, nitrogen cylinder	Pipe welding	Joint use with R22	Joint use with R22

MINI ECO-i

2 WAY ECO-i 5N series

3 WAY ECO-i

INDOOR UNITS

OPTIONAL PARTS

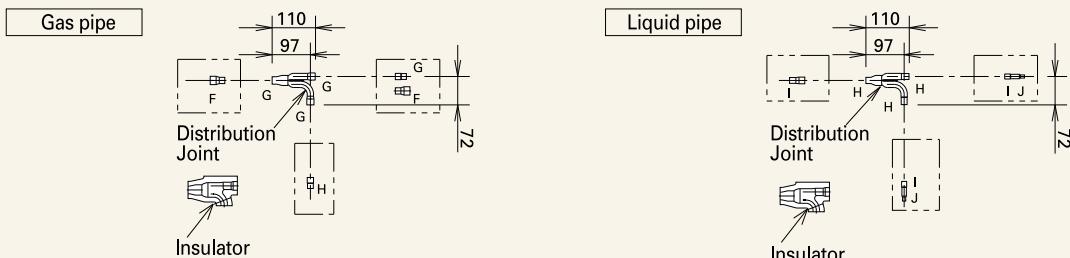
Optional parts/Distribution joint kit for 2 WAY ECO-i 5N series

■ Distribution joint kit

● Connection dimensions of the parts

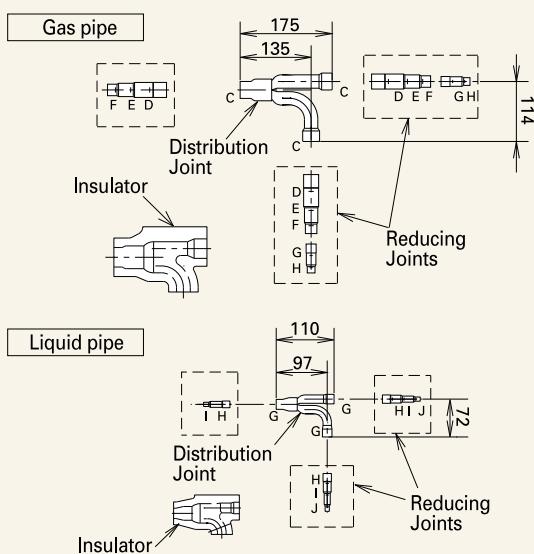
Position	Part A	Part B	Part C	Part D	Part E	Part F	Part G	Part H	Part I	Part J
Dimension	ø38.1	ø31.75	ø28.58	ø25.4	ø22.22	ø19.05	ø15.88	ø12.7	ø9.52	ø6.35

● APR-P160BG (for indoor units) (Capacity after distribution joint is 16.0 kW or less.)



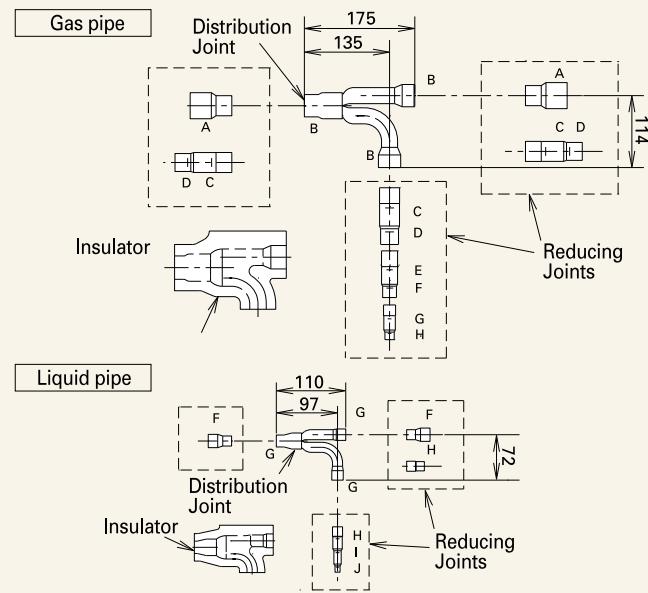
● APR-P680BG (for indoor units)

(Capacity after distribution joint is greater than 22.4 kW and no more than 68.0 kW)

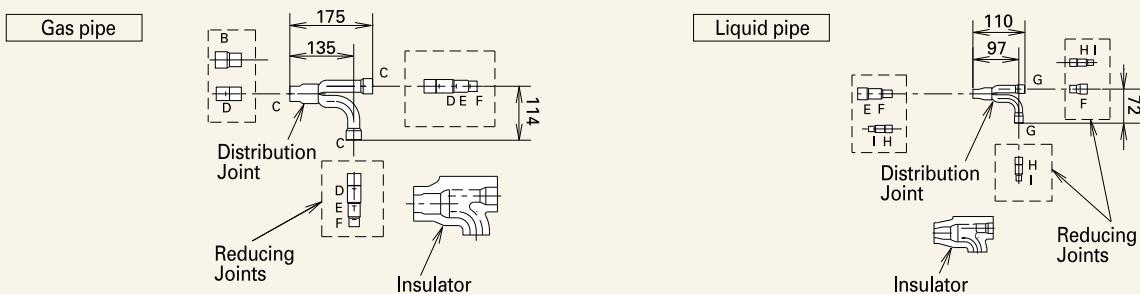


● APR-P1350BG (For indoor units)

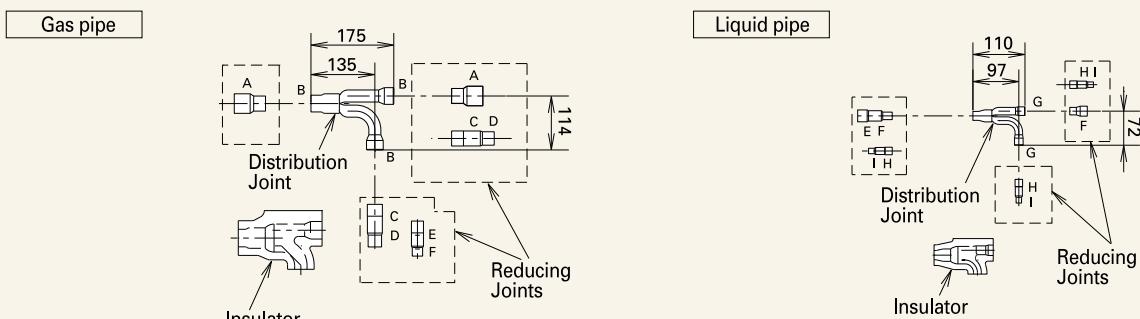
(Capacity after distribution joint is greater than 68.0 kW and no more than 135.0 kW)



● APR-CHP680BG (for outdoor units) (Capacity after distribution joint is 68.0 kW or less)



● APR-CHP1350BG (for outdoor units) (Capacity after distribution joint is greater than 68.0 kW and no more than 135.0 kW)



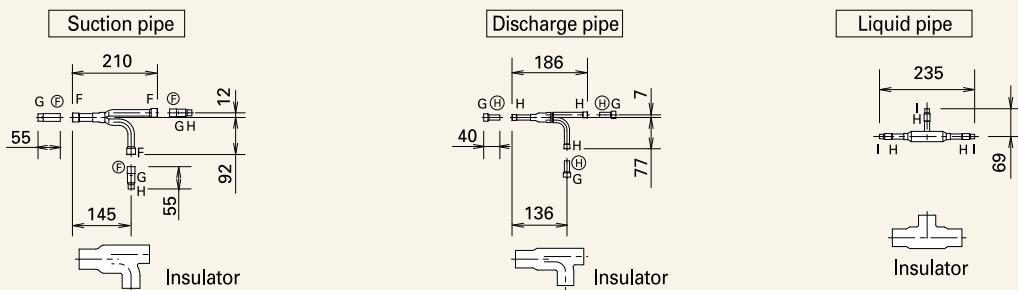
Optional parts/Distribution joint kit for 3 WAY ECO-i MULTI

Distribution joint kit

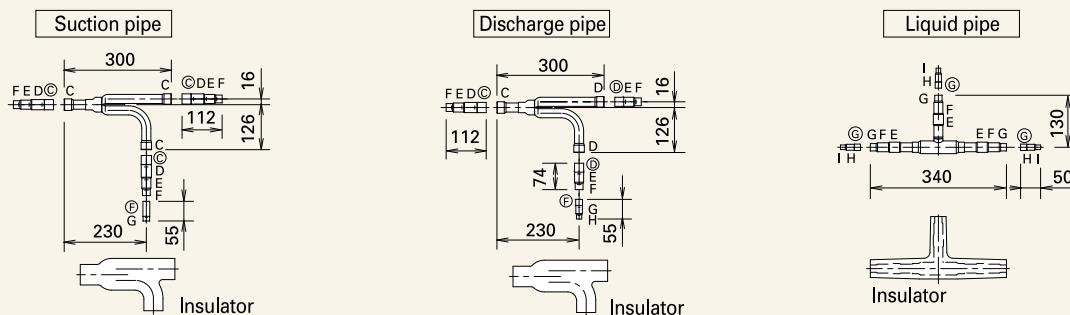
● Connection dimensions of the parts ** Example: In the drawing, F indicates an inner diameter dimension, (G) indicates an outer diameter dimension. (mm)

Position	Part A	Part B	Part C	Part D	Part E	Part F	Part G	Part H	Part I	Part J
Dimension	ø38.1	ø31.75	ø28.58	ø25.4	ø22.22	ø19.05	ø15.88	ø12.7	ø9.52	ø6.35

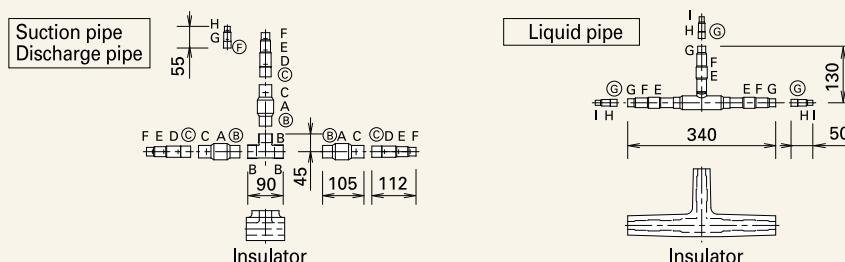
●APR-RZP224BGB (for indoor units) (Capacity after distribution joint is 22.4 kW or less.)



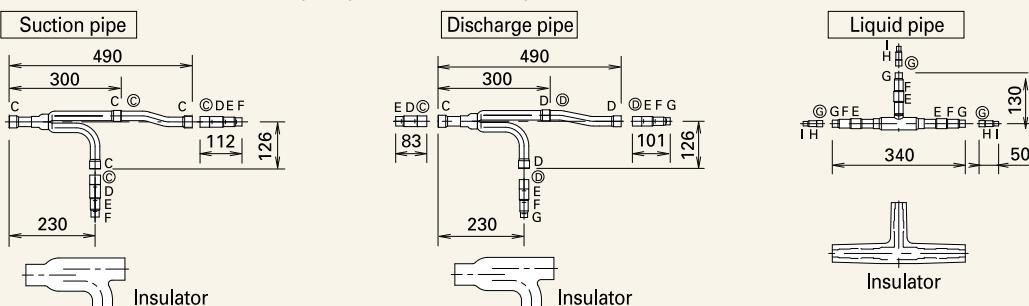
●APR-RZP680BGB (for indoor units) (Capacity after distribution joint is greater than 22.4 kW and no more than 68.0 kW))



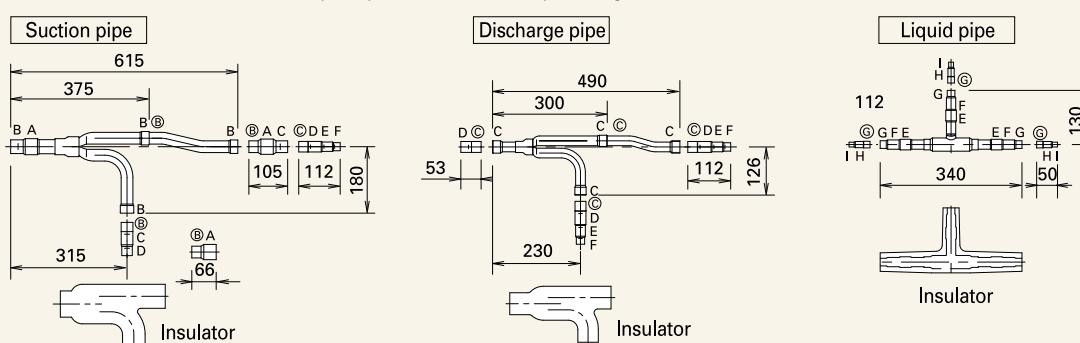
●APR-RZP1350BGB (for indoor units) (Capacity after distribution joint is greater than 68.0 kW and no more than 135.0 kW))



●APR-CHRZP680BGB (for outdoor units) (Capacity after distribution joint is 68.0 kW or less.)



●APR-CHRZP1350BGB (for outdoor units) (Capacity after distribution joint is greater than 68.0 kW and no more than 135.0 kW))





Indicates conformation
with EC Directives



ISO 9001: 2001
Certificate Number: JQ116B



ISO 14001: 2001
Certificate Number: ECOOJ0303-33

SANYO reserves the right to make any variation in specification to the equipment described or to withdraw or replace products without prior notification or public announcement. All descriptions, illustrations, drawings and specifications in this publication are given in good faith, but are intended to present only general particulars and shall not form any part of the contract. For full installation details, please contact your SANYO distributor.

REF: ECOSG08V1

Rating Conditions

The cooling and heating capacities are based on the following conditions:
Cooling: Indoor temperature 27°C DB / 19°C WB, Outdoor temperature 35°C DB / 24°C WB.
Heating: Indoor temperature 20°C DB, Outdoor Temperature 7°C DB 6°C WB.



Printed using paper produced from 50% recycled material and 50% from sustainable forestry.

www.sanyoaircon.eu

SANYO Air Conditioners. The natural choice.

SANYO

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SANYO Airconditioners Europe S.r.l.

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